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KD7-B/KD7-S/KD7-G Motherboard User's Manual

Index

Chapter 1. Six Languages Quick Installation Guide

1-1. KD7-B/KD7-S/KD7-G 中文快速安裝指引

感謝您購買 ABIT 的主機板，此主機板是設計給 AMD Socket A Athlon™ XP、Athlon™以及 Duron™ 處理器使用。支援 AMD Socket-A 架構的處理器，並支援最高至 2 GB 容量的記憶體（**必需是非緩衝式【Unbuffered】PC 2700/PC 3200 的記憶體模組**）或是 3 GB（**必需是非緩衝式【Unbuffered】PC 1600/PC 2100 的記憶體模組**）。如果您想要瞭解這片主機板更詳細的資訊，請參閱我們的完整版使用手冊，裡面會有詳盡的說明。此快速安裝手冊是給有經驗的系統組裝者使用，如果這是您第一次嘗試來組裝您的電腦系統，我們建議您先去閱讀完整版的使用手冊，或是詢問技術人員來幫助您組裝您的電腦系統。

(1). <u>KD7-B/KD7-S/KD7-G 主機板主要元件配置圖</u>

圖 1 顯示了 KD7-B/KD7-S/KD7-G 主機板主要元件的配置，此配置圖僅供您參考使用。

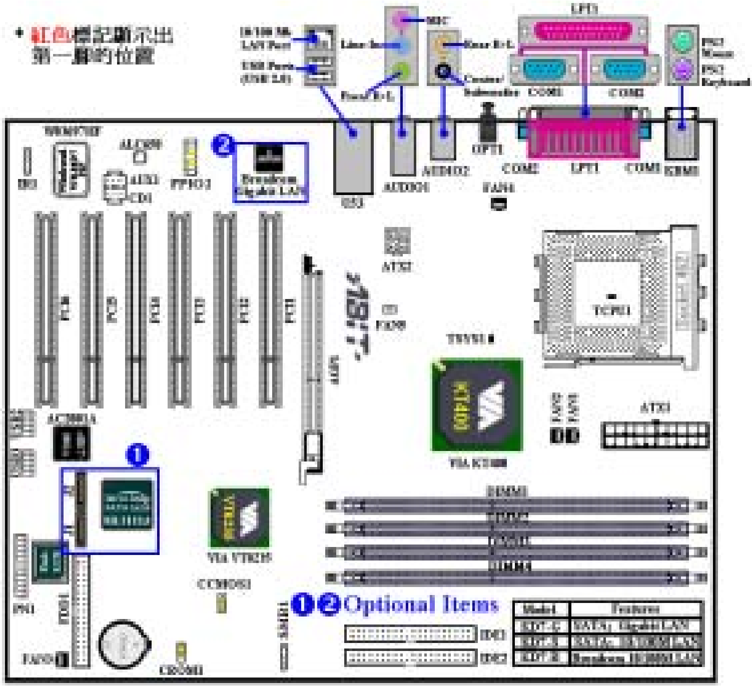


圖 1. KD7-B/KD7-S/KD7-G 主機板的主要元件配置圖

(2). AMD Socket A 處理器的安裝

AMD Socket A Athlon™ XP、Athlon™與 Duron™處理器的安裝如同以前的 Socket 7 Pentium®處理器一樣地簡單。由於它使用「**Socket A**」 ZIF（**Z**ero **I**nsertion **F**orce，零插入力）腳座，可以讓您輕易將處理器牢牢地固定在定位。***圖 2*** 告訴您 Socket A 插座的外觀模樣，以及您要如何地去開啓它的固定桿。若您置入處理器至腳座的方向不對時，您將無法輕易地將處理器插入 Socket A 的插座上，並且處理器的針腳將無法完全地插入腳座。當您發現有這種現象時，請您改變處理器插入至腳座的方向，直到它能輕易且完全地插入 Socket A 插座為止，請參見***圖 3***。同時您必需檢視處理器的溫度偵測熱敏電阻的高度（如果有的話），然後再小心的將 AMD Athlon（或是 Duron）處理器依前述的方法正確地安裝到 Socket A 腳座上去。

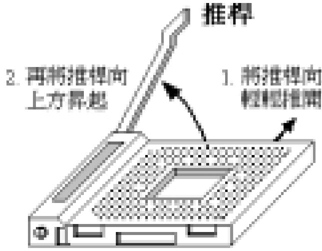


圖 2. 將Socket A的推桿昇起

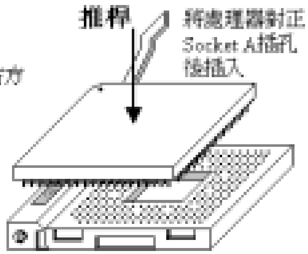


圖 3. 將處理器安裝至 Socket A插座上

(3). 安裝散熱裝置的提示



圖 4. 散熱片及風扇的安裝示意圖

安裝散熱器與散熱風扇是必需的，這樣可以讓您的處理器能夠適當地散熱（請參見***圖 4***）。未安裝散熱裝置可能導致處理器過熱，並且會損壞您的處理器。AMD Socket A 處理器在運作時會產生大量的熱量，所以您需要使用專門為 AMD Socket A 處理器設計的大型散熱風扇。否則可能會導致過熱並且會損壞您的處理器。處理器風扇未裝置妥當並且風扇電源線尚未連接妥當之前，請不要把 ATX 電源供應器的電源纜線連接到主機板上面。如此將可避免一些潛在損壞處理器的可能性。

(4). 將主機板安裝到機殼上

當您將處理器安裝到主機板上之後，您便可以開始將主機板固定到電腦機殼裡面去。首先；請您先將主機板固定到電腦機殼。大多數的電腦機殼底座都有許多的固定孔位，請將主機板上的固定孔位與機殼底座上的固定孔位對準。如果孔能對準並且有螺絲孔，就表示可使用銅柱來固定主機板。另外；您可以使用塑膠墊片來讓螺絲與主機板的 PCB 表層隔離（絕緣）。

(5). <u>安裝系統記憶體</u>

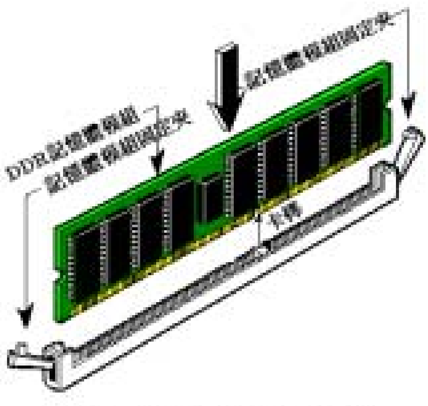


圖5.DDR記憶體模組的安裝

本主機板提供四組 184 腳的 DDR DIMM 插座可供記憶體擴充，可支援 DDR SDRAM 的最小記憶體大小為 64 MB，而最大的記憶體大小則為 2 GB 容量的記憶體（**必需是非緩衝式【Unbuffered】PC 2700/PC 3200 的記憶體模組**）或是 3 GB（**必需是非緩衝式【Unbuffered】PC 1600/PC 2100 的記憶體模組**）。在主機板上有四個記憶體模組插槽（總共有八個記憶體模組區塊（Bank））。

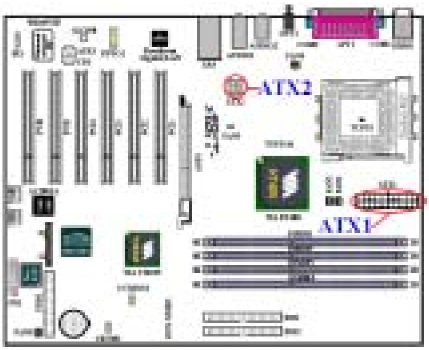
將 DDR DIMM 記憶體模組如***圖 5*** 所示，插入 DIMM 插槽。請注意記憶體模組的楔子是如何對應到 DIMM 插槽上的卡榫之上。***此種設計可確保 DDR DIMM 記憶體模組僅能由一個方向插到 DIMM 插槽之上***。當您將 DDR DIMM 記憶體模組完全插入 DIMM 插槽時，模組退出 (固定) 夾應該會將 DDR DIMM 記憶體模組自兩側卡緊並緊緊地固定住記憶體模組。

我們建議您將記憶體模組依照 DIMM1 至 DIMM4 的順序妥善地安裝於記憶體插槽。

(6). <u>連接器、連接頭以及其它附加卡的安裝</u>

在任何一部電腦機殼的裡面，都必需連接一些纜線與插頭。這些纜線與插頭通常都是一對一的連接至主機板的連接埠上，您必需注意任何一條纜線的連接方向。如果可能的話，請一併注意連接埠第一根針腳的位置。您將會安裝一些特殊功能的附加卡到主機板上面，像是 SCSI 卡或是 AGP 顯示卡等等。當您將它們安裝到主機板上適當的插槽之後，請以螺絲將這些附加卡與機殼背板牢牢地固定好，避免有鬆動的情況發生。如您想要瞭解相關且更為詳細的資訊，請參閱我們的完整版使用手冊，裡面會有詳盡的說明。

(7). <u>將電源供應器的電源線連接頭與主機板上的 **ATX1** 以及 **ATX2** 連接頭連接起來</u>



KD7-B/KD7-S/KD7-G 設計有兩個電源供應連接頭（ATX1 以及 ATX2），這與一般主機板所採用的電源設計方式不太相同。它可以使用設計給 Pentium® 4 處理器所使用的電源供應器，它也可以使用設計給一般用途使用的 ATX 電源供應器來連接。這片主機板具有供全新設計的 ATX12V1 的+12V 直流電源連接的連接頭，具備至少可提供 300W 的輸出功率，並且它對重量型負載系統至少也可以在+5V 直流電源端提供 20A（安培）以上電流的供電能力。而對於支援一些其它的特殊功能方面，它在+5VSB 電壓的部份至少也可以提供 720mA（毫安）的電流。

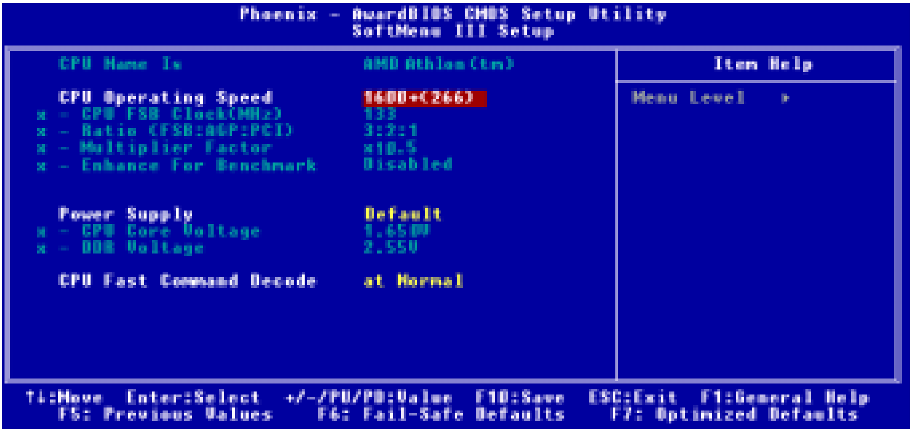
請自您的 ATX 電源供應器上將電源供應纜線的接頭連接到主機板的 ATX1 和 ATX2 接頭上去（一般用途所設計的 ATX 電源供應器並沒有 ATX12V1 的連接頭，所以您不必連接任何的電源纜線接頭到 ATX2 連接頭上面。）。請記住您必

需將來自 ATX 電源供應器的電源供應纜線連接頭牢牢地插到主機板上的 ATX1 以及 ATX2 連接頭上面，並確認其連接頭有良好連接。

請自您的 Pentium® 4 專用 ATX 電源供應器上將 ATXPWR1 以及 ATX12V1 的電源纜線插頭插到主機板上標示為 ATX1 以及 ATX2 的連接頭上去。請先檢查電源纜線插頭的方向正確之後，再牢牢地把插頭插到連接頭裡固定。

注意：請注意接腳的位置及方向。

(8). 處理器參數的設定 [SOFT MENU™ III]



當您將所有的硬體安裝完畢以後，就可以開啓電腦的電源並進 入 BIOS 的選項。請選擇「**SoftMenu III Setup**」的項目以進行處理器參數的設定。如您想要瞭解相關且更為詳細的資訊，請參閱我們的完整版使用手冊，裡面會有關於 BIOS 各種項目設定的詳細說明。

1-2. KD7-B/KD7-S/KD7-G クイックインストールガイド

ABIT マザーボードをお買い上げいただきありがとうございます。このマザーボードは AMD Socket A Athlon™ XP、Athlon™ および Duron™ プロセッサ向けに設計されています。AMD Socket-A 構造をサポートして、最大 2 GB **(バッファなし、非 ECC、PC 2700/PC 3200)** または 3 GB **(バッファなし、 非-ECC、PC 1600/PC 2100)**までの DDR DIMM メモリモジュールをサポートします。

このマザーボードの詳細については、ユーザーズマニュアルの完全版を参照してください。このクイックインストールガイドは、経験あるシステム構築者向けに書かれました。今回始めてコンピュータシステムをセットアップする方は、まず完全版のマニュアルをお読みになるか、専門技術者に連絡してコンピュータシステムのセットアップを行うようお勧めします。 レバー

(1). KD7-B/KD7-S/KD7-G マザーボードの配置

図 1 では、KD7-B/KD7-S/KD7-G のレイアウト図を示しています。参考のために、この図ですべての主要なコンポーネントを表示します。

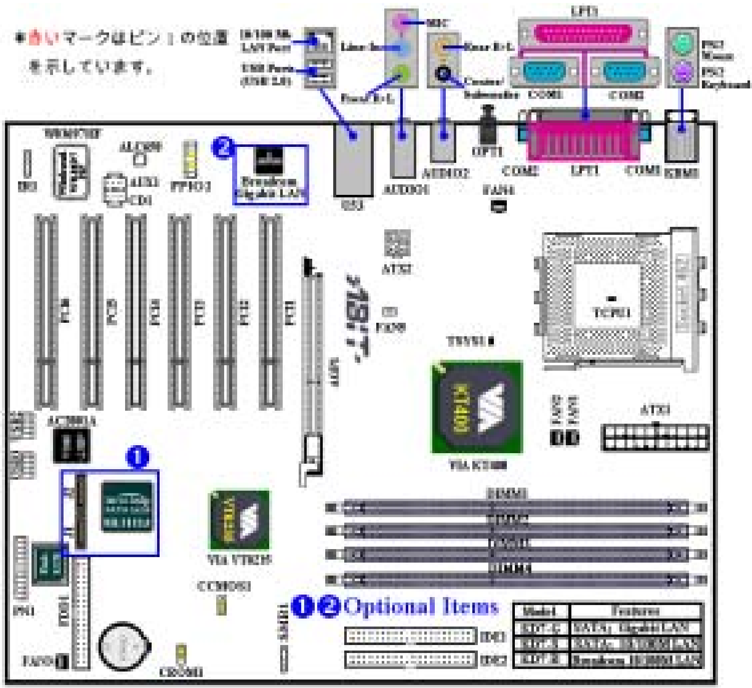


図 1. KD7-B/KD7-S/KD7-G レイアウト図

(2). プロセッサの取り付け

AMD Socket A Athlon™ XP、Athlon™ および Duron™ プロセッサの取り付けは、それまでの Socket 7 Pentium®のように簡単です。“**Socket A**” ZIF (ゼロインサーションフォース)ソケットを使用するため、プロセッサを所定の位置に簡単に固定することができます。***図 2*** では、Socket A の外観とレバーの持ち上げ方を示しています。方向を間違えて差し込むと、プロセッサはスムーズに入っていかず、途中で止まってしまいます。この場合、向きを変えると、Socket A に完全に差し込まれます。***図 3*** をご覧ください。同時に、プロセッサの温度検出サーミスタの高さもチェックしてください(マザーボードにこのコンポーネントが搭載されている場合)。その後で、プロセッサを Socket A にゆっくり差し込むことができます。

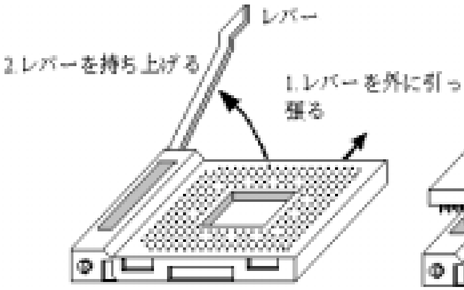


図 2.ソケット A およびそのレバーの開け方

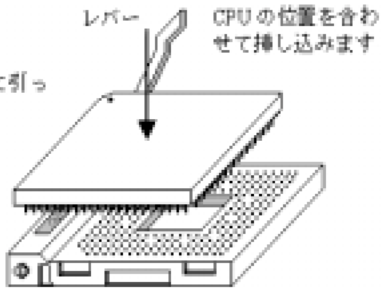


図 3. ソケット A への CPU の取り付け

(3). ヒートシンクの取り付けに関するヒント



図 **4.** ヒートシンクの取り付け

ヒートシンクと冷却ファンの取り付けは、コンピュータから熱を分散させるために必要となります(*図 **4*** 参照)。これらのアイテムを取り付けないと、過熱してプロセッサが破損する原因となります。AMD Socket A プロセッサは動作中に高熱を発生するため、AMD Socket A プロセッサ用に特別に設計された大きなヒートシンクが必要となります。そうでないと、過熱してプロセッサが破損することもあります。プロセッサファンとその電源ケーブルを正しく取り付けるまでは、ATX 電源ケーブルをマザーボードに決して差し込まないでください。これにより、プロセッサの破損を避けることができます。

(4). マザーボードをシャーシに取り付ける

マザーボードにプロセッサを取り付けた後、シャーシにマザーボードを固定することができるようになります。まず、シャーシにマザーボードを固定する必要があります。ほとんどのコンピュータシャーシには、多くの取り付け穴の付いた台が付属しており、それを使用することでマザーボードをしっかり取り付けたり、同時にショートを避けることができます。シャーシに付属する飾りボタンかスペーサーを使用してマザーボードを固定します。

(5). システムメモリを取り付ける

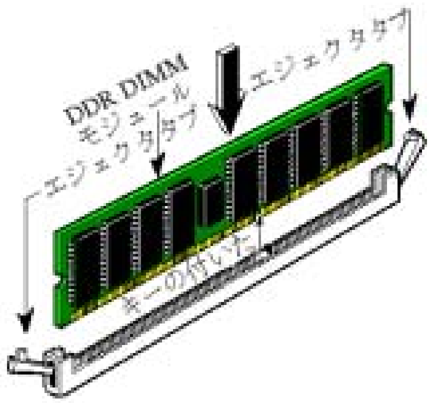


図 5. DDR メモリモジュールのインストール

このマザーボードは、4 つの 184 ピン DDR DIMM スロットメモリ拡張機能を提供します。最小メモリは 64 MB で、最大メモリは 2 GB **(**バッファなし、 **非-ECC、PC 2700/PC 3200)** または 3 GB **(**バッファなし、**非-ECC、PC 1600/PC 2100)**の DDR DIMM メモリモジュールです。ボードには、4 つのメモリモジュールソケットが搭載されています(合計、8 バンク)。

図に示すように、拡張ソケットに DDR DIMM モジュールを挿入します。モジュールがソケットにどのように固定されるか、ご注意ください。詳細については、***図 5*** を参照してください。***これは、DDR DIMM モジュールが誤った方向に装着できないようにするためのものです。*** DDR DIMM モジュールを DDR DIMM ソケットにしっかりと押し込みます。モジュールが DDR DIMM ソケットに最後まで挿入されていることをご確認ください。

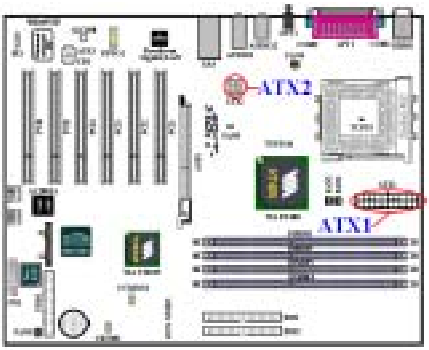
これらのモジュールに対して、DIMM1 から DIMM4 まで順番に差し込むことをお勧めします。

(6). コネクタ、ヘッダ、スイッチおよびアダプタ

コンピュータのケース内部には、複数のケーブルやプラグを接続できます。これらのケーブルやプラグは、通常マザーボードにあるコネクタに 1 つずつ接続されます。ケーブルの接続方向には十分な注意を払い、また必要に応じ、コネクタの第 1 ピンの位置にも注目する必要があります。SCSI アダプタ、AGP アダプタのような特殊なニーズ向けには、それに対応したアダプタを取り付けてください。アダプタをマザーボードのスロットに取り付けたら、ネジでシャーシの背面パネルに固定してください。

詳細については、ユーザーズマニュアルの完全版を参照してください。

(7). <u>電源コネクタを ATX1 と ATX2 コネクタに差し込む</u>

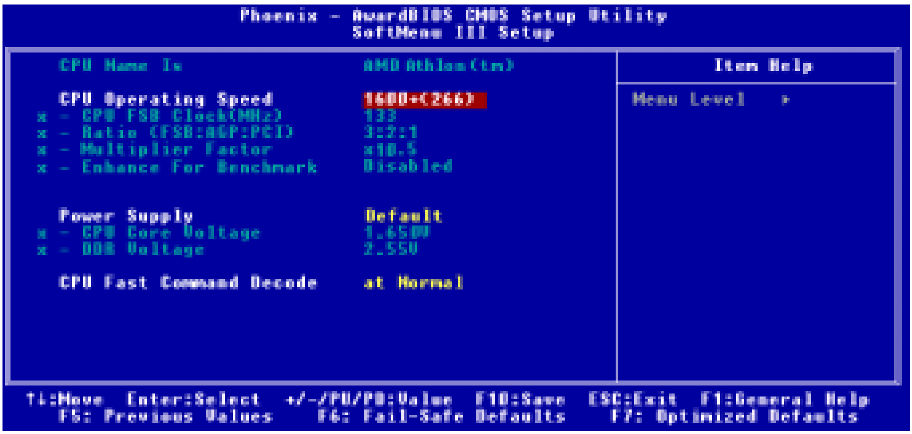


KD7-B/KD7-S/KD7-G には、通常のメインボード電源設計とは異なる方法で設計された、2 つの電源供給コネクタ(ATX1 と ATX2)が搭載されています。Pentium® 4 プロセッサ用に設計された電源装置だけでなく、汎用設計の ATX 電源装置をこれに接続することができます。このメインボードは重い負荷のかかったシステムに対しては最低 300W, 20A +5VDC の容量で、またいくつかの特殊機能をサポートする場合は最低 720mA +5VSB で、新設計の ATX12V1 +12VDC 電源をサポートできます。

ATX 電源装置から出るコネクタを ATX1 と ATX2 コネクタに接続します(汎用設計の ATX 電源装置は ATX12V1 コネクタを装備していないため、ATX2 コネクタには何も接続する必要はありません)。ATX 電源装置から出るコネクタを ATX1 と ATX2 コネクタの端にしっかり押し込み、正しく接続されていることを確認してください。

注意: *ピンの位置と方向をよく確認してください。*

(8). <u>CPU のセットアップ [SOFT MENU™III]</u>



ハードウェアの取り付けが完了したら、コンピュータの電源をオンにし、BIOS アイテム「**SoftMenu III セットアップ**」に移動して、プロセッサのパラメータをセットアップします。詳細については、ユーザーズマニュアルの完全版を参照してください。

1-3. KD7-B/KD7-S/KD7-G Schnellinstallationsanleitung

Vielen Dank für Ihren Kauf eines ABIT-Motherboards. Dieses Motherboard eignet sich für die Prozessoren AMD Socket A Athlon™ XP, Athlon™ und Duron™. Es unterstützt die AMD Socket-A-Struktur mit bis zu 2 GB **(Unbuffered, Non-ECC, PC 2700/PC 3200)** oder 3 GB **(Unbuffered, Non-ECC, PC 1600/PC 2100)** DDR DIMM-Speichermodule.

Beziehen Sie sich bitte für detaillierte Informationen über diese Hauptplatine auf die vollständige Version des Benutzerbuchs. Diese Schnellinstallationsanleitung ist für erfahrene Systemaufbauer gedacht. Ist es Ihr erster Versuch ein Computersystem aufzubauen, dann empfehlen wir Ihnen zuerst das vollständige Benutzerhandbuch zu lesen oder einen Techniker zum Aufbauen des Systems zu Hilfe zu holen.

(1). <u>Layout der KD7-B/KD7-S/KD7-G Hauptplatine</u>

Die ***Abb. 1*** stellt das KD7-B/KD7-S/KD7-G Layout dar. Alle Hauptkomponenten werden in dieser Abbildung angezeigt.

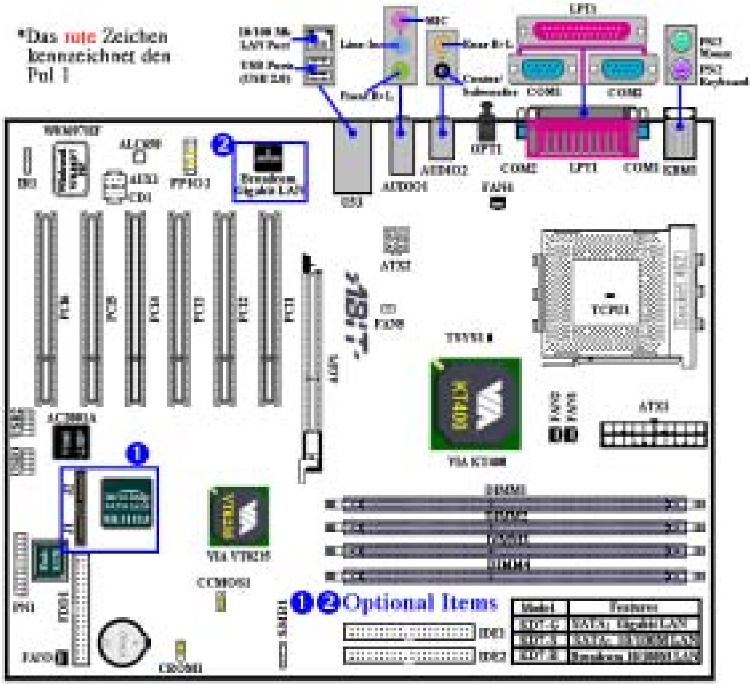


Abb 1. KD7-B/KD7-S/KD7-G Layout

(2). Installieren des Prozessors

Die Installation des AMD Socket A Athlon™ XP, Athlon™ und Duron™ Prozessors ist genauso einfach wie bei Socket 7 Pentium® Prozessoren davor. Da der "**Socket A**" ZIF (Zero Insertion Force) Sockel verwendet, können Sie den Prozessor fest in der Position verankern. Die ***Abb. 2*** zeigt, wie der Socket A aussieht und wie Sie den Hebel aufziehen. Wenn Sie beim Einstecken des Prozessors eine falsche Richtung gewählt haben, kann der Prozessor nicht leicht und komplett eingesteckt werden. Ändern Sie bitte in diesem Fall die Richtung, bis der Prozessor sich leicht und komplett in den Socket A einpassen lässt. Siehe ***Abb. 3***. Überprüfen Sie gleichzeitig die Höhe des Prozessortemperaturerkennungsthermistors (falls Ihre Hauptplatine diese Komponente besitzt). Wenn alles in Ordnung ist, stecken Sie bitte den Prozessor langsam in den Socket A ein.

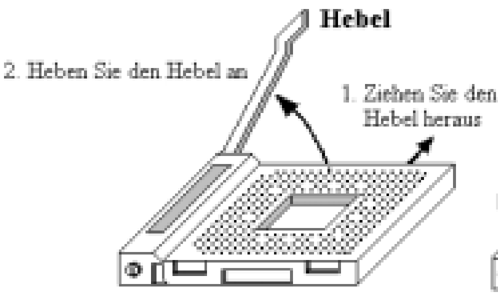


Abb. 2. Sockel A und Hebeloffnung

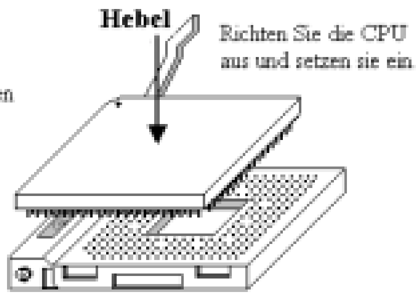


Abb. 3. Installieren Sie die CPU in Sockel A

(3). Hinweise zur Installation des Kühlkörpers

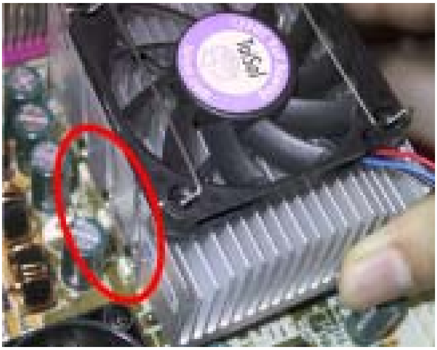


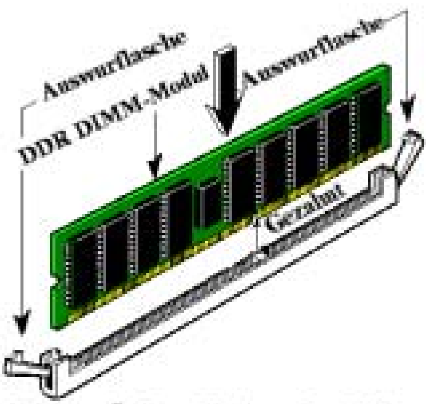
Abb. 4. Installation des Kühlkörpers

Ein Kühlkörper und Lüfter ist erforderlich, um die Hitze des Prozessors zu vertreiben (siehe ***Abb. 4***). Wurden die zwei Vorrichtungen nicht installiert, kann eine Überhitzung und ein Schaden am Prozessor entstehen. Ein AMD Socket A Prozessor erzeugt viel Hitze. Deshalb müssen Sie einen speziell für einen AMD Socket A Prozessor ausgelegten großen Kühlkörper verwenden. Ansonsten ist eine Überhitzung und ein Schaden am Prozessor möglich. Verbinden Sie niemals das ATX-Netzkabel mit der Hauptplatine, bevor der Prozessorlüfter installiert wurde und sein Netzkabel richtig angeschlossen wurde. Dies kann mögliche Schäden am Prozessor vermeiden.

(4). Installieren der Hauptplatine im Gehäuse

Nach der Installation des Prozessors können Sie anfangen die Hauptplatine im Computergehäuse zu befestigen. Die meisten Gehäuse haben eine Bodenplatte, auf der sich eine Reihe von Befestigungslöcher befinden, mit deren Hilfe Sie die Hauptplatine sicher verankern können und zugleich Kurzschlüsse verhindern. Verwenden Sie entweder die Dübeln oder die Abstandhalter, um die Hauptplatine auf der Bodenplatte des Gehäuses zu befestigen.

(5). Installing System Speicher



Schema 5. Installation des DDR-Speichermoduls

Dieses Motherboard bietet Speichererweiterung über vier 184-Pin DDR DIMM-Steckplätze. Die Mindestspeichergröße beträgt 64 MB und die maximale Speichergröße beträgt 2 GB **(Unbuffered, Non-ECC, PC 2700/PC 3200)** oder 3 GB **(Unbuffered, Non-ECC, PC 1600/PC 2100)** DDR DIMM-Speichermodule. Das Board enthält vier Speichermodulsockel (für insgesamt acht Bänke).

Setzen Sie das DDR DIMM-Modul in den Erweiterungssockel, wie im Bild gezeigt. Achten Sie auf die Ausrichtung des Moduls im Sockel. ***Bild 5*** zeigt Details. ***Dies stellt sicher, dass das DDR DIMM-Modul nur in eine Richtung hineinpaßt***. Drücken Sie das DDR DIMM-Modul in den DDR DIMM-Sockel, wobei Sie darauf achten, dass das Modul hinterher komplett fest im Sockel sitzt.

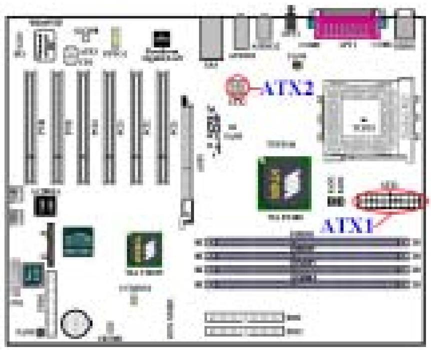
Für diese Module empfehlen wir die Bestückung in der Reihenfolge DIMM1 zu DIMM4.

(6). Anschlüsse, Sockel, Schalter und Adapter

Im Inneren des Gehäuses findet man in jedem Computer viele Kabel und Stecker, die angeschlossen werden müssen. Diese Kabel und Stecker werden normalerweise einzeln mit den Anschlüssen auf der Hauptplatine verbunden. Sie müssen genau auf die Anschlussorientierung der Kabel achten und, wenn vorhanden, sich die Position des ersten Pols des Anschlusses merken. Wenn Sie Adapter wie z.B. SCSI-Adapter, AGP-Adapter usw. installieren, befestigen Sie bitte die Adapter immer mit Hilfe der Schrauben auf die Rückseite des Computergehäuses.

Für detaillierte Informationen beziehen Sie sich bitte auf das vollständige Benutzerhandbuch.

(7). Vernindung der Stromanschlüsse an die Anschlüsse ATX1 und ATX2



KD7-B/KD7-S/KD7-G hat, anders als die üblichen Motherboards, zwei Stromversorgungsanschlüsse (ATX1 und ATX2). Es hat einen speziell für Pentium® 4-Prozessore ausgelegten Stromversorgungsanschluss und einen für allgemeine Zwecke ausgelegten ATX-Stromversorgungsanschluss. Es unterstützt die neulich entwickelte ATX12V1 +12VDC Stromversorgung mit 300W, 20A +5VDC für ein hochbelastetes System und 720mA +5VSB für manche Sondereffekte.

Verbinden Sie die Stecker der ATX-Stromversorgung mit dem ATX1- und ATX2-Anschluss (Die übliche ATX-Stromversorgung hat keinen ATX12V1-Stecker, so dass Sie nichts mit dem ATX2-Anschluss verbinden müssen). Drücken Sie bitte die Stecker der ATX-Stromversorgung fest in den ATX1- und ATX2-Anschluss, um eine gute Verbindung sicherzustellen

Anmerkung: *Achten Sie auf Position und Ausrichtung der Pole.*

(8). CPU-Setup [SOFT MENU™ III]



Schalten Sie nach der vervollständigten Hardwareinstallation den Computer ein und gehen zur Option 「**SoftMenu III Setup**」 im BIOS, um die Prozessorparameter einzustellen. Für detaillierte Informationen beziehen Sie sich bitte auf das vollständige Benutzerhandbuch.

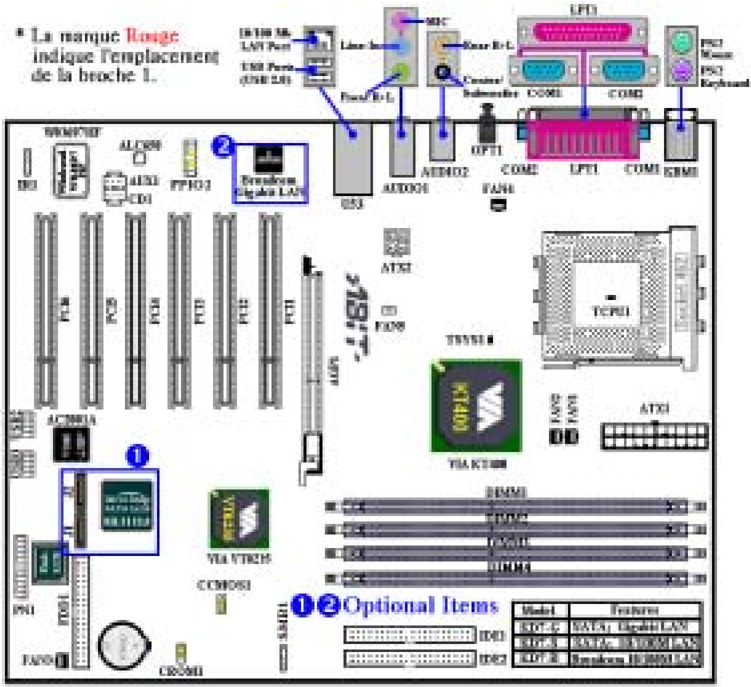
1-4. KD7-B/KD7-S/KD7-G Guide d'Installation Rapide

Merci pour votre achat de cette carte mère ABIT. Cette carte mère est conçue pour les processeurs AMD Socket A Athlon™ XP, Athlon™ et Duron™. Elle accepte la structure AMD Socket-A, et jusqu'à 2 GB **(Unbuffered, Non-ECC, PC 2700/PC 3200)** ou 3 GB **(Unbuffered, Non-ECC, PC 1600/PC 2100)** sous forme de modules mémoire DDR DIMM.

Pour des informations relatives à cette carte mère plus détaillées, veuillez vous référer à notre version complète du manuel utilisateur. Ce guide d'installation rapide est créé pour les assembleurs système expérimentés. S'il s'agit de votre premier essai pour installer un ordinateur, nous vous suggérons de lire d'abord le manuel en version complète ou de demander l'aide d'un technicien pour vous aider à configurer le système ordinateur.

(1). Emplacement de la Carte Mère KD7-B/KD7-S/KD7-G

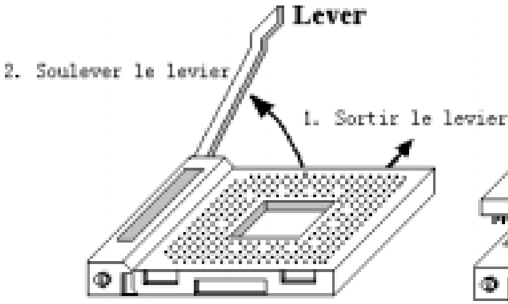
La ***Schema 1*** montre le schéma d'implantation de la KD7-B/KD7-S/KD7-G. Nous montrons tous les composants principaux dans ce schéma pour votre référence.



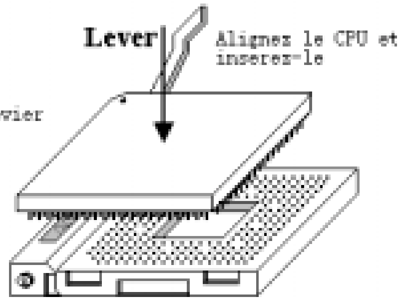
Schema 1. Schéma d'implantation de la KD7-B/KD7-S/KD7-G

(2). Installer le Processeur

L’installation du processeur AMD Socket A Athlon™ XP, Athlon™ et Duron™ est facile, comme les processeurs Socket 7 Pentium® auparavant. Comme elle utilise l’emplacement “**Socket A**” ZIF (Zero Insertion Force), vous pourrez facilement fixer le processeur fermement dans sa position. La ***Schema 2*** vous montre à quoi ressemble l’emplacement socket A, et comment soulever le levier. Si vous le mettez dans un mauvais sens, vous ne pourrez pas insérer le processeur facilement, et les broches du processeur n’entreront pas entièrement dans l’emplacement. Dans ce cas, veuillez changer le sens jusqu’à ce qu’il s’insère facilement et complètement dans l’emplacement socket A. Voir la ***Schema 3***. En même temps, vérifiez le niveau de la thermistance de détection de température du processeur (si votre carte mère possède ce composant). Ensuite, vous pouvez insérer lentement le processeur dans le Socket A.

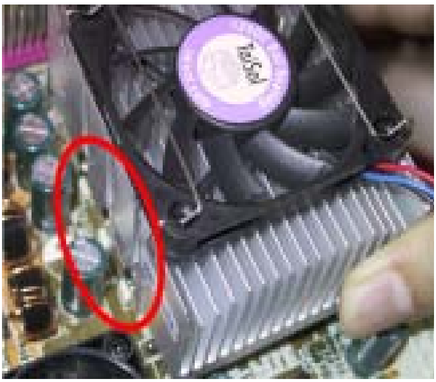


Schema 2. Socle A et son levier ouvert



Schema 3. Installer le CPU dans le Socle A

(3). Conseils Relatifs à l’Installation du Dissipateur Thermique



Installer un dissipateur thermique et un ventilateur de refroidissement est nécessaire pour que la chaleur se dégage de votre processeur (Voir Figure 4). Ne pas installer ces composants pourrait provoquer une surchauffe et des dommages au processeur. Le processeur Socket A AMD produira beaucoup de chaleur lors de son fonctionnement, donc vous aurez à utiliser un grand dissipateur thermique qui est conçu spécialement pour le processeur socket A AMD. Dans le cas contraire, il pourrait provoquer une surchauffe et des dommages au processeur. Avant que le ventilateur de votre processeur et son câble d’alimentation ne soient installés correctement, ne branchez jamais le câble d’alimentation ATX sur la carte mère. Ceci peut éviter d’éventuels dommages au processeur.

Schema 4. Installation du Dissipateur Thermique

(4). Installer la Carte Mère dans le Châssis

Une fois que vous aurez installé le processeur sur la carte mère, vous pourrez commencer à fixer la carte mère sur le châssis. Tout d'abord, vous avez besoin de fixer la carte mère sur le châssis. La plupart des châssis d'ordinateur possèdent une base sur laquelle il y a nombreux trous de montage permettant à la carte mère d'être fixée fermement, et en même temps d'éviter les court-circuits. Utilisez les talons ou les entretoises fixés sur le châssis pour fixer la carte mère.

(5). Installer la Mémoire Système

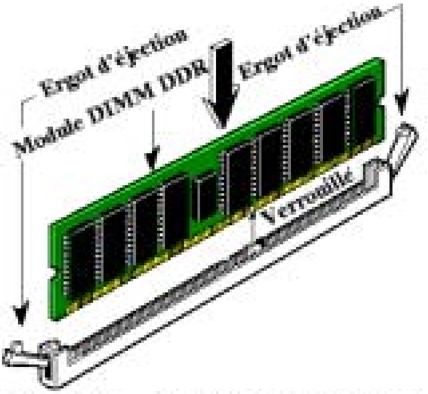


Figure 5. Installation du module mémoire DDR

Cette carte mère dispose de quatre emplacements DDR DIMM 184-broches pour les extensions mémoire. La mémoire minimum est de 64 MB et la mémoire maximum est de 2 GB **(Unbuffered, Non-ECC, PC 2700/PC 3200)** ou 3 GB **(Unbuffered, Non-ECC, PC 1600/PC 2100)** avec des modules mémoire DDR DIMM. Il y a quatre emplacements pour les modules mémoire sur la carte (pour un total de huit banques).

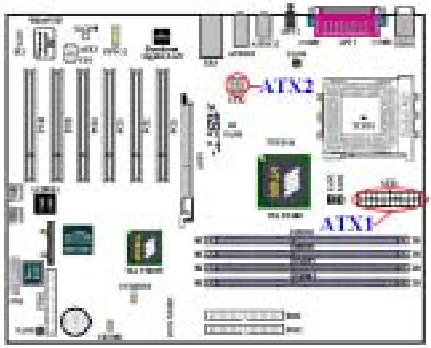
Insérez les modules DDR DIMM dans les emplacements comme indiqué sur l'illustration. Remarquez comment le module est positionné par une encoche dans son support. Vous pouvez vous référer à la ***Figure 5*** pour les détails. ***Cela vous assure qu'il n'y a qu'une seule façon de brancher le module de mémoire DDR DIMM***. Pressez fermement le module DDR DIMM dans son emplacement DDR DIMM; assurez-vous que le module est complètement inséré dans son support DDR DIMM.

Pour ces modules, nous vous suggérons de remplir les emplacements de DIMM1 à DIMM4 en respectant l'ordre.

(6). Connecteurs, Socles de connexion, Interrupteurs et Adaptateurs

A l'intérieur du boîtier de n'importe quel ordinateur il y a plusieurs câbles et prises qui doivent être connectés. Ces câbles et prises sont habituellement connectés les uns après les autres aux connecteurs situés sur la carte mère. Vous avez besoin de faire attention au sens de connexion des câbles et, s'il y a lieu, remarquez la position de la première broche du connecteur. Vous installerez certains adaptateurs pour des besoins spéciaux, tels adaptateurs SCSI, adaptateurs AGP, etc. Lorsque vous les installez dans les emplacements situés sur la carte mère, veuillez les fixer sur le panneau arrière du châssis à l'aide des vis. Pour les informations détaillées, veuillez vous référer au manuel utilisateur en version complète.

(7). Brancher les connecteurs d'alimentation sur les connecteurs ATX1 et ATX2



KD7-B/KD7-S/KD7-G a été conçu pour deux connecteurs d'alimentation (ATX1 et ATX2), son design en matière d'alimentation est différent de celui des cartes-mères conventionnelles. Il permet d'avoir l'alimentation électrique conçue pour les processeurs Pentium® 4, et permet aussi de brancher l'unité d'alimentation ATX classique. Il s'agit d'une unité d'alimentation ATX12V1 +12VCC de conception nouvelle avec une capacité 300W, 20A +5VCC pour une charge moindre imposée au système, et au moins 720mA +5VSB pour pouvoir supporter certaines fonctions spéciales.

Branchez ici l'alimentation électrique ATX sur les connecteurs ATX1 et ATX2 (les unités d'alimentation électriques ATX conventionnelles ne possèdent pas de connecteur ATX12V1, aussi n'avez-vous pas besoin de brancher quoi que ce soit sur le connecteur ATX2). N'oubliez pas que vous devez pousser fermement sur le connecteur de l'unité d'alimentation pour la brancher sur les connecteurs ATX1 et ATX2, pour être sûr d'avoir une bonne connexion.

Remarque: *Faites attention à la position des broches et à l'orientation.*

(8). Configuration du Processeur [SOFT MENU™ III]



Une fois le matériel installé complètement, démarrez l'ordinateur et allez sur l'item「**SoftMenu III Setup**」dans le BIOS pour configurer les paramètres du processeur. Pour les informations détaillées, veuillez vous référer à la version complète du manuel utilisateur.

1-5. Краткое руководство по установке KD7-B/KD7-S/KD7-G

Благодарим Вас за приобретение системной платы ABIT. Эта системная плата разработана для процессоров AMD Socket A Athlon™ XP, Athlon™ и Duron™. Она поддерживает структуру AMD Socket-A, максимальный объем модулей памяти DDR DIMM может составлять 2 Гбайт **(небуферированные, без контроля четности, PC 2700/PC 3200)** или 3,5 Гбайт **(небуферированные, без контроля четности, PC 1600/PC 2100)**.

Более подробные сведения о материнской плате приведены в руководстве пользователя. Краткое руководство по установке предназначено для опытных специалистов. Если вы собираете компьютер впервые, ознакомьтесь сперва с руководством пользователя или попросите техника помочь в настройке компьютерной системы.

(1). Расположение компонентов KD7-B/KD7-S/KD7-G

На ***рис. 1*** показана схема расположения основных компонентов KD7-B/KD7-S/KD7-G.

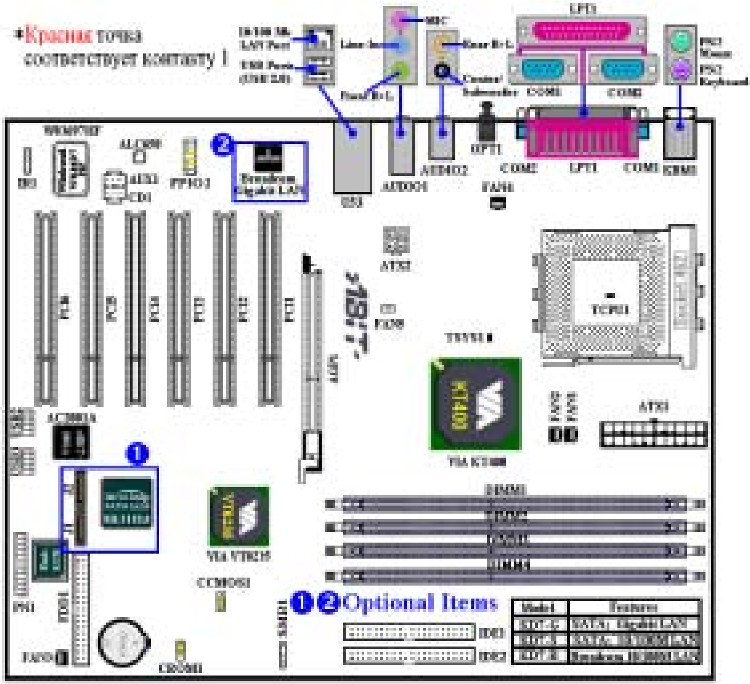


Рисунок 1. Схема расположения компонентов KD7-B/KD7-S/KD7-G

(2). Установка процессора:

Процесс установки процессора AMD Socket A Athlon™ XP, Athlon™ и Duron™ несложен, он напоминает процесс установки процессоров Pentium® Socket 7. Гнездо “**Socket A**” ZIF (Zero Insertion Force – с нулевым усилием вставки) позволяет легко установить процессор на место. На ***рис. 2*** показано гнездо “Socket A” и направление перемещения рычага. Если рычаг будет смещен не в нужную сторону, легко установить процессор не удастся, а контакты процессора не попадут в гнезда. Если так получилось, измените направление перемещения, до тех пор, пока процессор не станет на свое место в гнездо “socket A”. См. ***рис. 3***. В то же время проверьте высоту температурного датчика (если он установлен на материнской плате). Теперь можно установить процессор в гнездо “Socket A”.

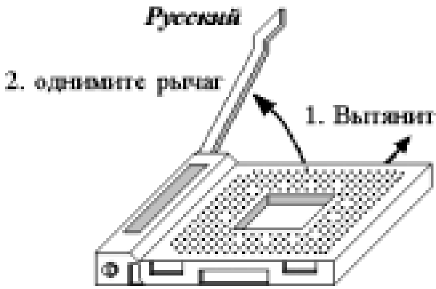


Рисунок 2. Гнездо "Socket A" и поднимите рычаг

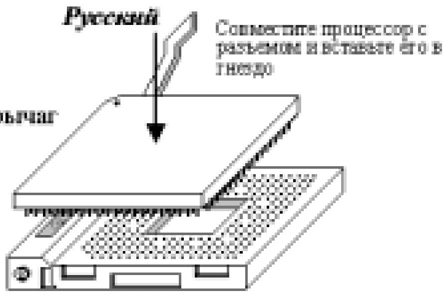


Рисунок 3. Установите процессор в гнездо "Socket A".

(3). Советы по установке радиатора:



Рисунок 4. Установка радиатора

Установка радиатора и вентилятора необходима для рассеивания тепла от процессора (см. ***рис. 4***). Неустановка радиатора и вентилятора может привести к перегреву и повреждению процессора. Процессор AMD Socket A сильно нагревается в процессе работы, поэтому необходимо пользоваться специальным радиатором, разработанным для процессора AMD socket A. В противном случае процессор может перегреться и выйти из строя. Не подключайте кабель питания ATX к материнской плате до тех пор, пока вентилятор процессора не установлен и кабель питания вентилятора процессора не подключен к материнской плате. Так можно предотвратить возможное повреждение процессора.

(4). Установка материнской платы в корпус

После установки процессора на материнскую плату можно начинать установку материнской платы в корпус. Большая часть корпусов оборудована основанием, в котором проделаны монтажные отверстия, которые позволяют надежно закрепить материнскую плату и предотвратить короткие замыкания. Для крепления материнской платы к основанию используются винты и прокладки.

(5). Установка модулей памяти

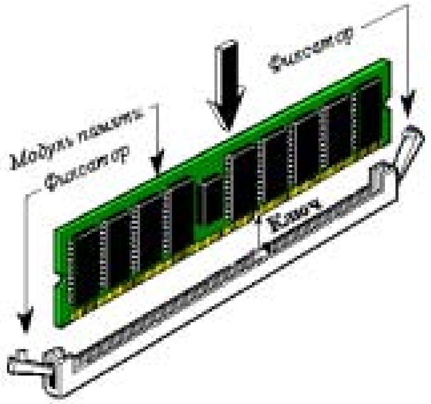


рис. 5.Установка модуля DDR DIMM

На системной плате предусмотрено четыре гнезда для 184-контактных модулей памяти DDR DIMM. Минимальный объем памяти DDR DIMM составляет 64 Мбайт, максимальный объем – 2 Гбайт **(небуферированные, без контроля четности, PC 2700/PC 3200)** или 3 Гбайт **(небуферированные, без контроля четности, PC 1600/PC 2100)**. На плате расположены четыре гнезда для модулей памяти (всего восемь банков).
Установите модуль памяти DDR DIMM в гнездо, как показано на рисунке. Обратите внимание на ориентацию модуля в гнезде. Установка подробно проиллюстрирована на ***рисунке 5***. ***Ключевой элемент гарантирует, что модуль DDR DIMM будет установлен единственным образом***. Установите модуль памяти DDR DIMM в гнездо DDR DIMM и убедитесь, что модуль установлен до упора.

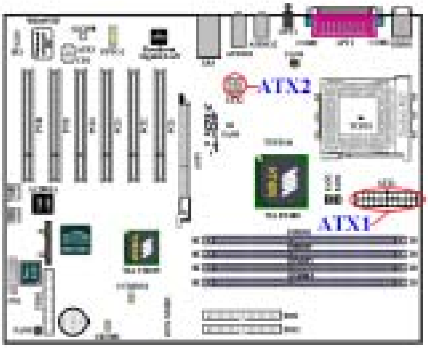
Рекомендуется заполнять гнезда в порядке с DIMM1 по DIMM4.

(6). Разъемы, переключатели и адаптеры

Внутри корпуса компьютера необходимо расположены несколько кабелей и вилок, которые необходимо подключить. Обычно эти кабели подключаются к разъемам, расположенным на материнской плате. При подключении любого кабеля необходимо обращать внимание на расположение первого контакта разъема. Для особых целей могут потребоваться специальные адаптеры, например, адаптер SCSI, адаптер AGP и т.п.. При установке адаптеров в гнезда материнской платы закрепите их на задней панели с помощью винтов.

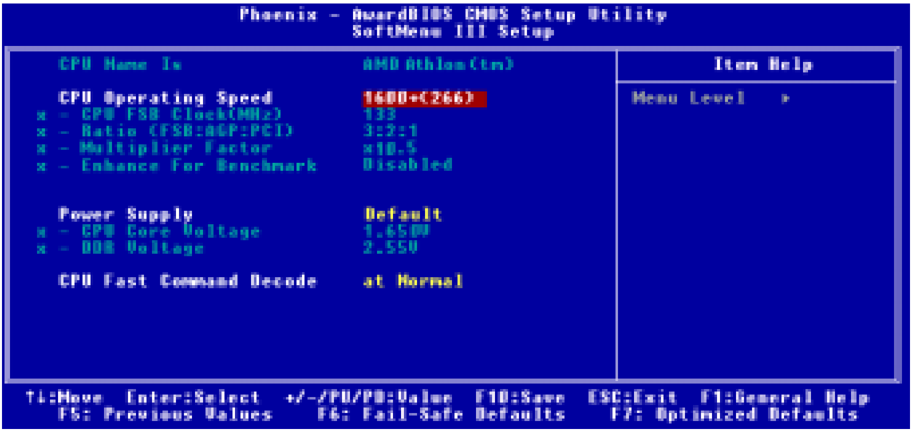
За более подробной информацией обращайтесь к полному руководству пользователя.

(7). Подключение разъемов питания к разъемам ATX1 и ATX2



KD7-B/KD7-S/KD7-G имеет два разъема для подключения питания (ATX1 и ATX2), что отличает ее от материнской платы, рассчитанной на работу с обыкновенными блоками питания. Она предусматривает подключение как блоков питания, разработанных для работы с процессорами Pentium® 4, так и обычных блоков питания ATX. Недавно разработан ATX12V1 с мощностью 300Вт, беспечивающий ток, как минимум, 20 А при постоянном напряжении +5В, для сильно нагруженной системы, и, как минимум, 720 мА при напряжении в режиме ожидания +5 В , и наконец для использования некоторых дополнительных возможностей. Подсоедините разъем блока питания ATX к разъемам ATX1 и ATX2 (Обычный блок питания ATX не имеет разъема ATX12V1, так что нет необходимости подключать что-либо к разъему ATX2). Помните, что следует вставлять разъем блока питания с усилием до конца в разъемы ATX1 и ATX2 чтобы обеспечить хороший контакт.

(8). Настройка CPU [SOFT MENU™ III]



По окончании установки аппаратуры включите питание и перейдите в меню BIOS「**SoftMenu III Setup**」, чтобы настроить параметры процессора. За более подробной информацией обращайтесь к руководству пользователя.

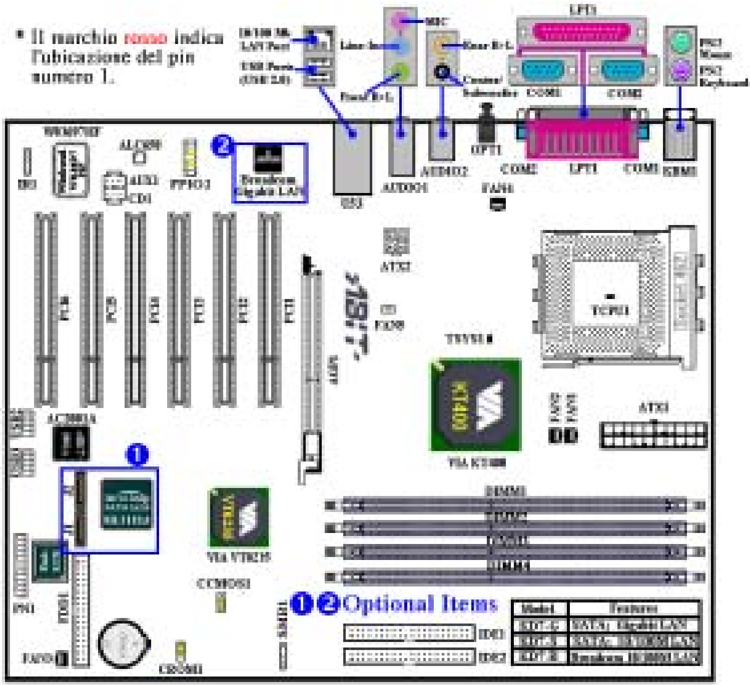
1-6. Guida all'installazione veloce Scheda madre KD7-B/KD7-S/KD7-G

Complimenti per l'acquisto di una scheda madre ABIT. Questa scheda madre è progettata per prese AMD Socket A e processori Athlon™ XP, Athlon™ e Duron™. Supporta la struttura AMD Socket-A, con fino a 2 GB di moduli memoria DDR DIMM **(Unbuffered, Non-ECC, PC 2700/PC 3200)** o fino a 3 GB **(Unbuffered, Non-ECC, PC 1600/PC 2100)**.

Per maggiori e dettagliate informazioni su questa scheda madre si prega di fare riferimento alla versione integrale del Manuale utente. Questa guida all'installazione veloce è intesa per costruttori esperi di sistemi. Se questa è la prima volta che si cerca di installare un sistema, si consiglia di leggere, innanzi tutto, la versione integrale del manuale oppure di chiedere aiuto ad un tecnico per l'installazione.

(1). Disposizione scheda madre KD7-B/KD7-S/KD7-G

La ***Figura 1*** mostra il diagramma di disposizione della scheda madre KD7-B/KD7-S/KD7-G. Tutti gli elementi principali sono visualizzati in questo diagramma.



1. Diagramma di disposizione scheda madre KD7-B/KD7-S/KD7-G

(2). Installazione del processore

L'installazione del processore AMD Socket A Athlon™ XP, Athlon™ e Duron™ è semplice come quella del processore Socket 7 Pentium®. Grazie all'utilizzo della presa "**Socket A**" ZIF (Zero Insertion Force), il processore può essere inserito in posizione con fermezza e facilità. La ***Figura 2*** mostra l'aspetto della presa A e cole sollevare la levetta. Se il processore è collocato nella posizione sbagliata, non si sarà in grado di inserirlo con facilità e non si riuscirà ad inserirlo completamente nella presa. In questo caso cambiare la posizione – direzione finché il processore si inserisce completamente e con facilità nella presa A. Si veda la ***Figura 3***. Allo stesso tempo controllare la condizione del termostato per il rilevamento della temperatura (se la scheda madre possiede questo elemento). Poi è possibile inserire lentamente il processore nella presa Socket A.

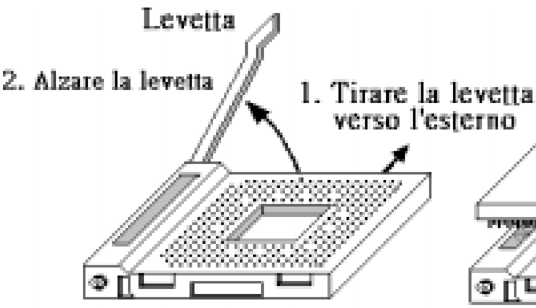


Figura 2. Socket A apertura della levetta

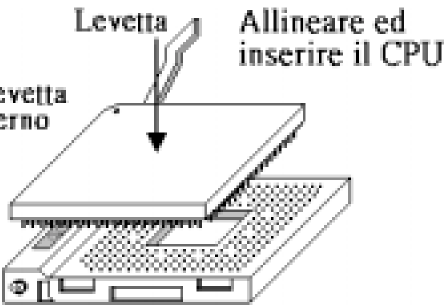


Figura 3. Installazione del CP nella presa A

(3). Suggerimenti per l'installazione del dispersore di calore

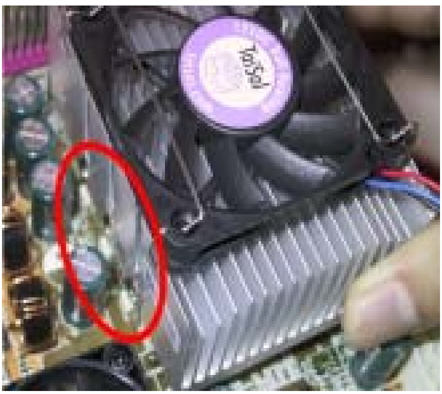


Figura 4. Installazione del dispersore di calore

L'installazione di un dispersore di calore e di una ventolina di raffreddamento è necessaria per dissipare il calore generano dal processore (si veda la ***Figura 4***). Diversamente si provocherà il surriscaldamento e conseguente danneggiamento del processore. I processori AMD Socket A producono una gran quantità di calore, è quindi necessario impiegare un dispersore di calore potente che sia progettato specialmente per processori AMD socket A. Diversamente si provocherà il surriscaldamento e conseguente danneggiamento del processore. Non collegare mai il cavo d'alimentazione ATX alla scheda madre prima di avere installato in modo appropriato la ventolina del processore ed il suo cavo d'alimentazione. Ciò può prevenire possibili danni al processore.

(4). Installazione della scheda madre sul telaio

Dopo avere installato il processore sulla scheda madre si può iniziare a fissare la scheda madre sul telaio. Innanzi tutto è necessario fissare la scheda madre al telaio. La maggior parte dei telai ha una base sulla quale sono presenti diversi fori di montaggio che permettono di fissare in modo accurato la scheda madre e, allo stesso tempo, di prevenire corto circuiti. Impiegare le borchie o gli spaziatori attaccati al telaio per fissare la scheda madre.

(5). Installazione della memoria di sistema

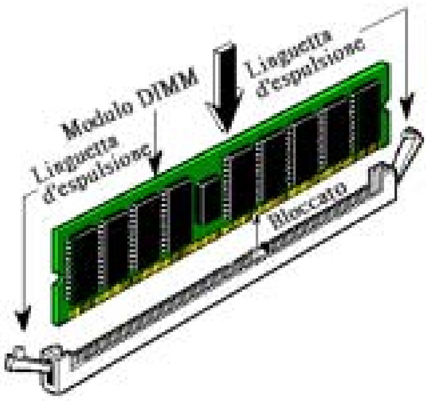


Figura 5. Installazione modulo DDR DIMM

Questa scheda madre fornisce quattro slot d'espansione di memoria DDR DIMM a 184 pin. La memoria minima è di 64 MB e la memoria massima è di 2 GB di moduli memoria DDR DIMM **(Unbuffered, Non-ECC, PC 2700/PC 3200)** o fino a 3 GB **(Unbuffered, Non-ECC, PC 1600/PC 2100)**. Ci sono quattro prese modulo memoria nella scheda madre (per un totale di otto file).

Inserire il modulo DDR DIMM nello slot d'espansione come mostrato dell'illustrazione- Notare come il modulo è imperniato nella presa. Fare riferimento alla ***Figura 5*** per dettagli. ***Ciò assicura che ci sia un unico modo per collegare il modulo DDR DIMM.*** Premere con fermezza il modulo DDR DIMM nello slot DDR DIMM, assicurandosi che il modulo sia inserito completamente nello slot DDR DIMM.

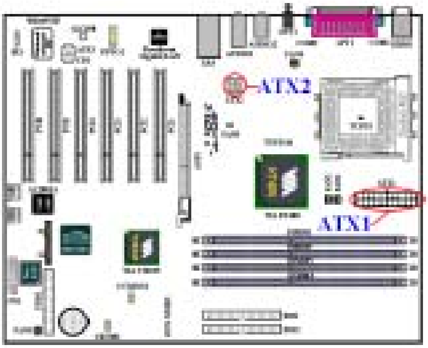
Per questi moduli si suggerisce di inserire i chip elettronici in ordine da DIMM1 a DIMM4.

(6). Connettori, collettori, interruttori ed adattatori

All'interno della copertura di ogni computer ci sono diversi cavi e prese che devo essere collegati. Questi cavi e prese sono solitamente collegati uno ad uno ai connettori situati sulla scheda madre. E' necessario prestare particolare attenzione a qualunque orientamento del collegamento che possono avere i cavi e, se necessario, notare la posizione del primo pin del connettore. Si installeranno alcuni adattatori per particolari necessità quali l'adattatore SCSI, AGP, eccetera. Quando si installano gli adattatori sugli slot della scheda madre, si ricorda di fissarli con le viti anche sul pannello posteriore del telaio.

Per informazioni dettagliate si prega di fare riferimento alla versione integrale del Manuale utente.

(7). Collegamento dei connettori d'alimentazione ai connettori ATX1 ed ATX2

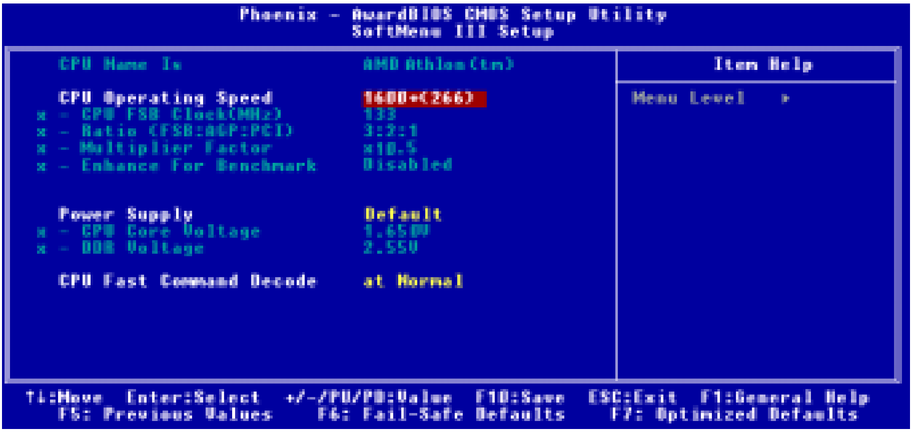


KD7-B/KD7-S/KD7-G ha progettato due connettori d'alimentazione (ATX1 ed ATX2), che sono diversi da quelli che si trovano nelle schede madri di progettazione regolare. Possono fornire l'alimentazione designata per i processori Pentium® 4, ed anche supportare l'alimentazione generalre designata al collegamento dell'ATX. E' un'alimentazione di nuova progettazione ATX12V1 +12VDC con una capacità di almeno 300W, 20A +5VDC per sistemi caricati pesantemente ed almeno 720mA +5VSB per supportare alcune funzioni speciali.

Collegare qui il connettore dall'alimentazione ATX ai connettori ATX1 ed ATX2 (l'alimentazione di progettazione generale ATX non possiede il connettore ATX12V1, quindi non è necessario collegare nulla al connettoreATX2). Ricordarsi che è necessario spingere fino in fondo il connettore della sorgente d'alimentazione ATX con i connettori ATX1 e ATX2, assicurando così un buon collegamento.

Nota: *Prestare attenzione alla posizione ed all'orientamento dei pin.*

(8). Impostazione CPU [SOFT MENU™ III]



Quando l'hardware è stato installato completamente, accendere il computer ed andare alla voce **SoftMenu III Setup** 」 del BIOS per impostare i parametri del processore. Per informazioni dettagliate si prega di fare riferimento alla versione integrale del Manuale utente.

Chapter 2. Introduction of KD7-B/KD7-S/KD7-G Features

2-1. Features of KD7-B/KD7-S/KD7-G Motherboard

This motherboard is designed for AMD Socket A Athlon™ XP, Athlon™ and Duron™ processors. It supports the AMD Socket-A structure, with up to 3 GB **(Unbuffered)** or 3.5 GB **(Registered)** of memory, super I/O and Green PC functions. **(For individual KD7 Series specification, please refer to 2-2. Specification.)**

The KD7-B/KD7-S/KD7-G uses the VIA KT400 and VT8235 chipsets to make the evolutionary move from PC 100/PC 133 SDRAM to PC 1600/PC 2100/PC 2700/PC 3200 DDR SDRAM, increasing the speed of the system and memory buses from 100 MHz to 200 MHz. Its 200/266/333/400 MHz memory interface supports a wide range of PC 1600/PC 2100/PC 2700/PC3200 DDR SDRAM memory devices now on the market.

VIA KT400 is a system bus controller, or northbridge, that houses the high-speed system elements critical to overall system performance while also containing the system interface to the processor. The key functions of the KT400 System Controller include the 333 MHz Athlon System Bus, the 400 MHz DDR Memory Subsystem, the AGP 4X/8X(1.5V/0.8V) modes Graphics Interface (AGP 3.0 Compliant) and the 33 MHz/32-bit PCI Bus Interface (PCI 2.2 Compliant), including arbiter. DDR SDRAM is the newest memory standard, it provides the maximum translation bandwith and also greatly improves data transaction delays. This feature improves whole system performance and speed, especially in multimedia environment applications.

The KD7-B/KD7-S/KD7-G has a built-in Ultra DMA 133 function. This means that it provides speedier HDD throughput boosting overall system performance. Ultra DMA 133 is the newest standard for IDE devices. It enhances existing Ultra DMA 33 technology by increasing both performance and data integrity. This new high-speed interface almost double the Ultra DMA 66 burst data transfer rate to 133 MBytes/sec. The result is maximum disc performance using the current PCI local bus environment. Another benefit is you can connect four IDE devices in your system through either Ultra DMA 66, Ultra DMA 100 or Ultra DMA 133. You will have more flexibility to expand your computer system. Moreover, the expanded connectivity via USB 2.0 ports gives users an easy way to connect to today's hottest peripherals. On-board 10/100 LAN provides high-speed networking capabilility, and built-in 6-channel audio delivers a rich multimedia expensive.

KD7-G/KD7-S's built-in one Silicon Image SIL3112A Controller provides two Serial ATA connectors onboard; you can connect one Serial ATA device to each of them, since Serial ATA will be a point-to-point protocol. What is Serial ATA? Serial ATA is an evolutionary replacement for the Parallel ATA physical storage interface. Serial ATA is scalable and will allow future enhancements to the computing platform. This new high-speed interface expands data transfer rate to 150 MB/sec (1.5 gigabits/sec).

KD7-B/KD7-S/KD7-G provides high flexibility to users building AMD Socket A Athlon™ XP, Athlon™ and Duron™ systems. It provides the option of 200/266/333 MHz CPU and memory bus combinations.

The KD7-B/KD7-S/KD7-G has built-in hardware monitoring functions (refer to ***Appendix G*** for detailed information) to ensure a safe computing environment.

2-2. Specifications

1. CPU

- Supports AMD-K7 Athlon / Athlon XP Socket A 200/266/333MHz FSB Processors
- Supports AMD-K7 Duron Socket A 200 MHz FSB Processors

2. Chipset (VIA KT400 and VT8235):

- Supports Ultra DMA 33, Ultra DMA 66, Ultra DMA 100 and Ultra DMA 133 IDE protocol
- Supports **A**dvanced **C**onfiguration and **P**ower Management **I**nterface (ACPI)
- Accelerated Graphics Port connector supports AGP 4X/8X(1.5V/0.8V) mode (Sideband) device. (AGP 3.0 Compliant)
- Supports 200 MHz/266 MHz/333 MHz/400 MHz (100 MHz/133 MHz/166 MHz/200 MHz Double Data Rate) memory bus settings
- Supports Hi-Speed Universal Serial Bus (USB 2.0)

3. Memory (System Memory)

- Four 184-pin DIMM sockets
- Supports 2 DIMM DDR 333/400 (Max. 2GB)
- Supports 3 DIMM Un-buffered DDR 200/266 (Max. 3GB)
- Supports 4 DIMM Registered DDR 200/266 (Max. 3.5GB)

4. System BIOS

- SoftMenu™ Technology to set CPU parameters
- Award PnP (**P**lug a**n**d **P**lay) BIOS supports APM and DMI (**D**esktop **M**anagement **I**nterface)
- Supports ACPI (**A**dvanced **C**onfiguration **P**ower **I**nterface)
- Write-Protect Anti-Virus function by AWARD BIOS

5. Audio

- Realtek ALC650 (AC-Link)
- 6-Channel AC 97 CODEC on board
- Professional digital audio interface supporting 24-bit S/P DIF OUT

6. LAN

- On board Broadcom BCM 4401 PCI Ethernet Controller
- 10/100 Mb Operation support ACPI & Wake On LAN

7. Gigabit LAN (Optional)

- On board Broadcom BCM 5702 10/100/1000 Mb PCI Ethernet Controller
- 10/100/1000 Mb Operation support ACPI & Wake On LAN

8. Serial ATA 150 (Optional)

- Onboard Silicon Image SIL3112A Controller
- Support 2 ports SATA 150 (1.5G bps)
- Supports Serial ATA data transfer rates of 150 MB/sec

9. Internal I/O Connectors

- 1 x AGP, 6 x PCI slots
- Floppy Port supports up to 2.88MB
- 2 x Ultra DMA 33/66/100/133 Connectors
- 2 x USB headers
- 1 x CD-IN, 1 x AUX-IN
- 1 x IrDA
- 2 x Serial ATA 150 connector **(Optional)**

10. Back Panel I/O

- 1 x PS/2 Keyboard, 1 x PS/2 mouse
- 2 x Serial, 1 x Parallel
- 1 x S/PDIF Output
- Audio connectors (Front Speaker, Line-in, Mic-in, Center/Sub, Surround Speaker)
- 2 x USB, 1 x RJ-45 LAN Connector

11. Order Information

Model	Features
KD7-G	SATA, Gigabit LAN
KD7-S	SATA, 10/100M LAN
KD7-B	Broadcom 10/100M LAN

12. Miscellaneous

- ATX form factor
- Hardware Monitoring – Including Fan speed, Voltages, CPU and System temperature

❈ **Supports Wake On LAN, Modem, but your ATX power supply 5V standby power must be able to provide at least a 720mA current capacity. Otherwise, the functions may not work normally.**

❈ **This motherboard supports the standard bus speeds of 66 MHz/100 MHz/133 MHz that are used by specific PCI, processor and chipset specifications. Exceeding these standard bus speeds is not guaranteed due to the specific component specifications.**

❈ **The Serial ATA controller only supports Ultra DMA/ATA-100 or higher hard drive. Do not use hard drives under this specification, or it won't work.**

❈ **Specifications and information contained in this manual are subject to change without notice.**

Note
All brand names and trademarks are the property of their respective owners.

2-3. Item Checklist

Check that your package is complete. If you discover any damaged or missing items, please contact your retailer or dealer.

- ☑ One ABIT KD7 Series motherboard
- ☑ One 80-wire/40-pin ribbon cable for master and slave Ultra DMA 133, Ultra DMA 100, Ultra DMA 66 or Ultra DMA 33 IDE devices.
- ☑ One ribbon cable for 3.5” floppy disk devices
- ☑ One compact disc for support drivers and utilities
- ☑ One USB 2.0 cable with bracket
- ☑ One user’s manual for the motherboard
- ☑ One I/O shield
- ☑ One floopy disk of Silcon Image driver **(Optional)**
- ☑ One Serial ATA cable, One ABIT SERILLEL™ converter, One Serillel ATA quick installation guide **(Optional)**

2-4. Layout Diagram for KD7-B/KD7-S/KD7-G

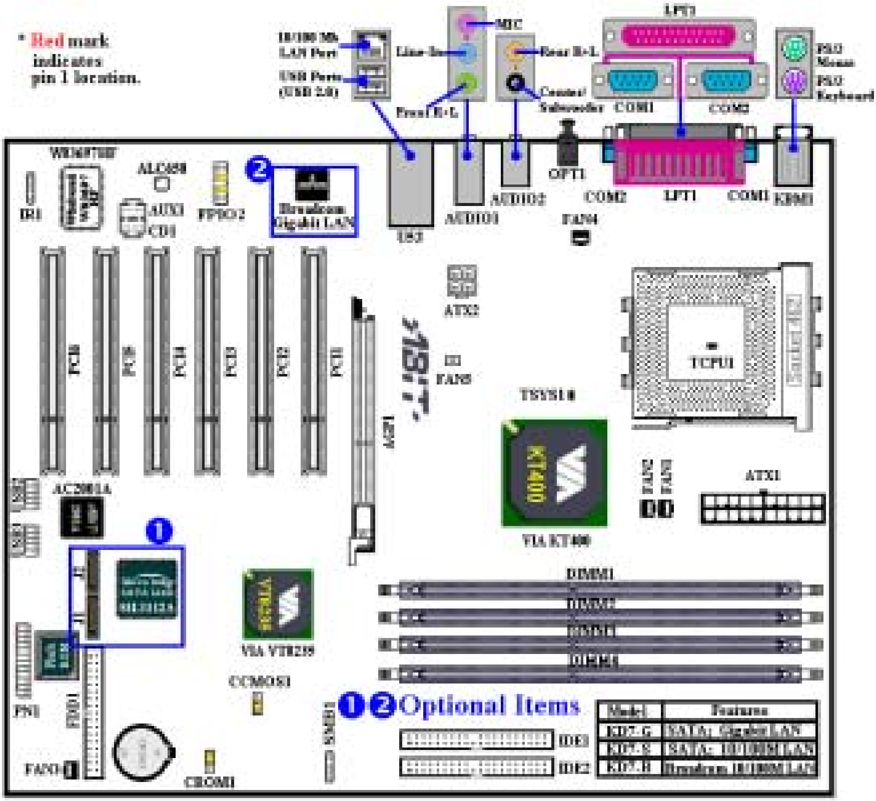
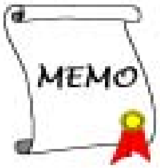


Figure 2-1. KD7-B/KD7-S/KD7-G motherboard component location


MEMO

Chapter 3. Installing the Motherboard

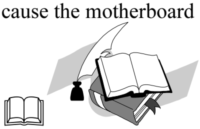
This KD7-B/KD7-S/KD7-G motherboard not only provides all standard equipment for classic personal computers, but also provides great flexibility for meeting future upgrade demands. This chapter will introduce step by step all of the standard equipment and will also present, as completely as possible, future upgrade capabilities. This motherboard is able to supports all AMD Socket A Athlon™ XP, Athlon™ and Duron™ processors now on the market. (For details, see specifications in Chapter 2.)

This chapter is organized according the following features:

1. Installation of the AMD Socket A Athlon™ XP, Athlon™ and Duron™ CPU
2. Installing the Motherboard to the Chassis
3. Installing System Memory
4. Connectors, Headers and Switches

Before Proceeding with the Installation

Before you install or unplug any connectors or add-on cards, please remember to turn the ATX power supply switch off (fully turn the +5V standby power off), or take the power cord off. Otherwise, you may cause the motherboard components or add-on cards to malfunction or be damaged.



User Friendly Instructions

Please read our instructions carefully and follow them step-by-step. Our objective is to enable the novice computer user to perform the installation by himself. We have attempted to write this document in a very clear, concise and descriptive manner to help overcome any obstacles you may face during installation.

Diagram and Photos

This chapter contains many color drawings, diagrams and photos, we strongly recommend you read this chapter use the PDF file that is stored on the CD-Title. Color improves the clarity and quality of the diagrams. For the downloadable edition, as files larger than 3 MB are difficult to download, we will cut the graphics and photo resolution to reduce the manual file size. In such this case, if your manual is downloaded from our WEB site and not from a CD-ROM, enlarging graphics or photos will distort the image.

3-1. Installation of the AMD Athlon™ XP, Athlon™ and Duron™ CPU

Note

- Installing a heatsink and cooling fan is necessary for heat to dissipate from your processor. Failing to install these items may result in overheating and processor damage.
- The AMD Socket A processor will produce a lot of heat while operating, so you need to use a large heat sink that is especially designed for the AMD socket A processor. Otherwise, it may result in overheating and processor damage.
- If your processor fan and its power cable are not installed properly, never plug the ATX power cable into the motherboard. This can prevent possible processor damage.
- Please refer to your processor installation manual or other documentation with your processor for detailed installation instructions.

The AMD Socket A Athlon™ XP, Athlon™ and Duron™ processor installation is easy, like Socket 7 Pentium® processors before. Because it uses the "**Socket A**" ZIF (**Z**ero **I**nsertion **F**orce) socket, you can easily fix the processor firmly into position. Figure 3-1 shows you what the socket A looks like, and how to open the lever. The socket A has more pins than the socket 7. Therefore, a Pentium® level processor cannot be inserted into a socket A.

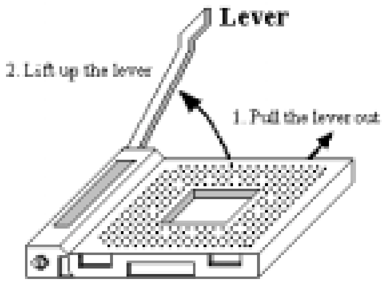


Figure 3-1. Socket A and open its lever

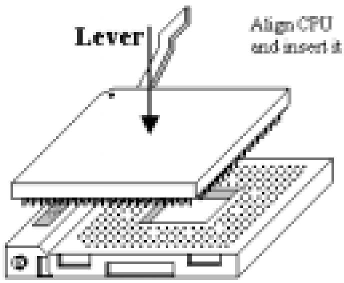


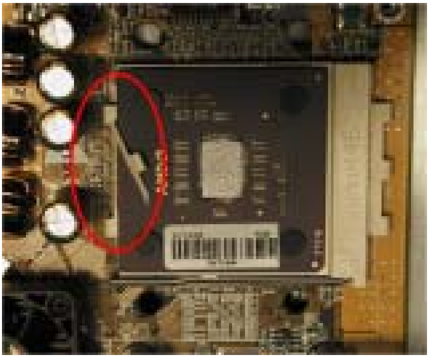
Figure 3-2. Install the CPU into socket A

When you raise the lever, you have to loosen the socket lock. Please raise the lever to the end, and prepare to insert the processor. Next, you need to align the processor pin 1 to the socket pin 1. If you put it in the wrong direction, you will not be able to insert the processor easily, and processor pins will not fully go into the socket. If this is the case, please change the direction, until it easily and fully inserts into the socket A. See Figure 3-2. At the same time check the processor temperature detection thermistor height (if your motherboard has this component), then you can slowly insert the processor into the Scoket A. Finally, you need to check that the processor edge and the Socket A edge is parallel. It should be parallel and not tilted.

When you finish the above, push the lever down to its original position, you should feel the lever lock the socket A. You have then finished the processor installation.

Heatsink Installation Hints

Because the processor will produce a lot of heat while operating, we suggest you use a heatsink approved by AMD to be safe and to keep the processor temperature within normal operation temperatures. The heatsink will be large and heavy, so the fixing plate has a strong tension. When you install the heatsink on to the processor and its socket, you have to very carefully fix the fixing plate to the processor socket hook on both sides. If you do not pay attention to this, you may make the fixing plate scratch the PCB surface and cause circuit damage, break socket hooks or damage the die on the top of processor.



Please follow the sequence metioned below, **Do Not** inverse the sequence. Otherwise, you may have a situation like the photo on the left. Because of the design of the CPU socket, the left side hooks are not as strong as the right side hooks. If you follow our suggestions you will prevent your processor and socket from damage.

Note
Considering the chassis structure problem, please always take off the motherboard from chassis, before adding or removing a heatsink kit.

The proper procedure to install the heatsink kit:



First, install the processor into the processor socket.



Insert the heatsink left side fix plate into the processor socket left side fix hooks. Make sure the fit is very tight. Check the photo on the left.



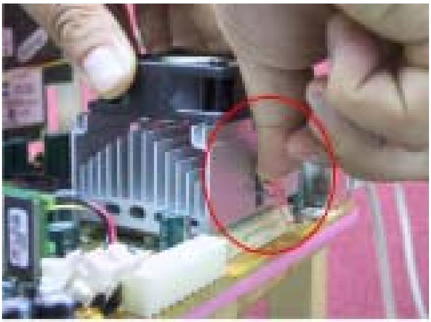
Insert a flat screwdriver into the middle slot of the right side fix plate and push down. Then you can push the fix plate over the socket hooks on the right side. Check the photo on the left.



Check the photo on the left. You have finished the heatsink installation.

Now hold the whole heatsink and slightly shake it, make sure the buttom right side of the heaksink does not contact the right side of the Socket (see bottom picture). Otherwise, the processor die does not have proper contact with the heatsink. This situation may cause processor damage.

Remember to install the heatsink fan power cable to the CPU fan header on the motherboard.



Now you can reinstall the motherboard back into the chassis.

When all above procedures done, you can connect the ATX power cable to the motherboard.

If you have different types of heatsink kit, please refer to the manual that came with the heatsink kit. The left photo shows another type of heatsink fix plate design. The install sequences are still the same, from right side to left side. Just remember that.

We strongly recommand you to buy a heatsink with three holes in the fix plate. This will provide the best stabability and won't cause the Socket fix hooks to be broken or damaged.



The left photo shows the bottom right side of the heaksink in contact with the right side of the Socket. In this situation, the processor die does not properly contact the heatsink. If you start the computer at this monent, it will immediately cause the processor damage. Always check this place when you finish the heatsink installation.

3-2. Installing the Motherboard to the Chassis

After you install the processor to the motherboard, you can start to fix the motherboard into the chassis. Most computer chassis will have a base on which there will be many mounting holes that allows the motherboard to be securely attached and at the same time, prevents short circuits. There are two ways to attach the motherboard to the base of chassis:

- With studs
- With spacers

Please refer to figure 3-3, which shows the studs and spacers. There may be several types, but all look like the figures below:

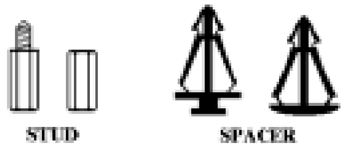


Figure 3-3. The outline of stud and spacer

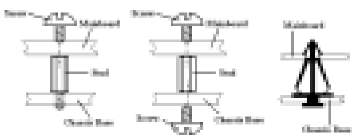


Figure 3-4. The way we fixed the motherboard

In principle, the best way to attach the motherboard is with studs. Only if you are unable to do this should you attach the board with spacers. Take a careful look at the motherboard and you will see many mounting holes on it. Line these holes up with the mounting holes on the base. If the holes line up and there are screw holes this means you can attach the motherboard with studs. If the holes line up and there are only slots, this means you can only attach the motherboard with spacers. Take the tip of the spacers and insert them into the slots. After doing this to all the slots, you can slide the motherboard into position aligned with the slots. After the motherboard has been positioned, check to make sure everything is OK before putting the casing back on.

Figure 3-4 shows you the way to affix the motherboard using studs or spacers.

Note
If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, don't worry, you can still attach the spacers to the mounting holes. Just cut the bottom portion of spacers (the spacer they may be a little hard to cut, so be careful with your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any the printed circuit wire or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

3-3. Installing System Memory

This motherboard provides four 184-pin DDR DIMM sites for memory expansion. The DDR SDRAM DIMM sockets support 8 M x 64 (64 MB), 16M x 64 (128 MB), 32 M x 64 (256 MB), 64 M x 64 (512 MB) and 128 M x 64 (1024 MB) or double density DDR SDRAM DIMM modules. Minimum memory is 64 MB and the maximum memory is 3 GB **(Unbuffered, PC 1600 and PC 2100)** / 2GB **(Unbuffered, PC 2700/PC 3200)** or 3.5 GB **(Registered, PC 1600 and PC 2100)** / 3 GB **(Registered, PC 2700/PC 3200)** DDR SDRAM. There are four memory module sockets on the system board (for a total of eight banks). In order to create a memory array, following rules must be followed.

Note

- For those modules, we suggest that you be populate DIMM1 to DIMM4 in order.
- When you install a DDR DIMM module fully into the DDR DIMM socket, the eject tab should be locked into the DDR DIMM module very firmly and fit into its indention on the both sides.
- Supports single and double density DDR DIMMS.

Table 3-1. Valid Memory Configurations

Bank	Memory Module	Total Memory
Bank 0, 1 (DDR DIMM1)	64 MB, 128 MB, 256 MB, 512 MB, 1024 MB	64 MB ~ 1 GB
Bank 2, 3 (DDR DIMM2)	64 MB, 128 MB, 256 MB, 512 MB, 1024 MB	64 MB ~ 1 GB
Bank 4, 5 (DDR DIMM3)	64 MB, 128 MB, 256 MB, 512 MB, 1024 MB	64 MB ~ 1 GB
Bank 6, 7 (DDR DIMM4)	64 MB, 128 MB, 256 MB, 512 MB, 1024 MB	64 MB ~ 1 GB
Total System Memory for Unbuffered DDR DIMM (PC 1600/PC 2100)		64 MB ~ 3 GB
Total System Memory for Registered DDR DIMM (PC 1600/PC 2100)		64 MB ~ 3.5 GB
Total System Memory for Unbuffered DDR DIMM (PC 2700/PC 3200)		64 MB ~ 2 GB
Total System Memory for Registered DDR DIMM (PC 2700/PC 3200)		64 MB ~ 3 GB

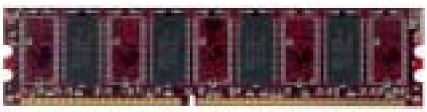


Figure 3-5. PC1600/2100/2700/3200 DDR Module and Component Mark

Generally, installing DDR SDRAM modules to your motherboard is an easy thing to do. You can refer to Figure 3-5 to see what a 184-pin PC 1600, PC 2100 and PC 2700/PC 3200 DDR SDRAM module looks like.

Unlike installing SIMMs, DIMMs may be "**snapped**" directly into the socket. Note: Certain DDR DIMM sockets have minor physical differences. If your module doesn't seem to fit, please do not force it into the socket as you may damaged your memory module or DDR DIMM socket.

The following procedure will show you how to install a DDR DIMM module into a DDR DIMM socket.

Step 1. Before you install the memory module, please place the computer power switch in the ***off*** position and disconnect the AC power cord from your computer.

Step 2. Remove the computer's chassis cover.

Step 3. Before touching any electronic components, make sure you first touch an unpainted, grounded metal object to discharge any static electricity stored on your clothing or body.

Step 4. Locate your computer's 184-pin memory expansion DDR DIMM socket.

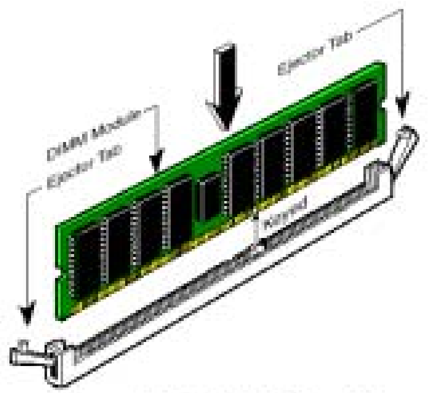


Figure 3-6. DDR DIMM module installation

Step 5. Insert the DDR DIMM module into the expansion socket as shown in the illustration. Note how the module is keyed to the socket. You can refer to Figure 3-6 for the details. ***This insures the DDR DIMM module will be plugged into the socket in one way only***. Firmly press the DDR DIMM module into DDR DIMM socket, making certain the module is completely seated in the DDR DIMM socket.

Step 6. Once the DDR DIMM module has been installed, the installation is complete and the computer's cover can be replaced. Or you can continue to install other devices and add-on cards that are mentioned in the following section.

It is difficult to differentiate between the PC 1600, PC 2100 and PC 2700/PC 3200 DDR SDRAM modules from the exterior. The only way you can identify them is to look at the sticker on the DDR SDRAM module. The sticker will tell you which kind of structure module the DDR SDRAM is.

3-4. Connectors, Headers and Switches

Inside the case of any computer several cables and plugs have to be connected. These cables and plugs are usually connected one-by-one to connectors located on the motherboard. You need to carefully pay attention to any connection orientation the cables may have and, if any, notice the position of the first pin of the connector. In the explanations that follow, we will describe the significance of the first pin.

We will show you all of the connectors, headers and switches here, and tell you how to connect them. Please pay attention and read the entire section for necessary information before attempting to finish all of the hardware installation inside the computer chassis.

Figure 3-7 shows you all of the connectors and headers that we'll discuss in the next section, you can use this diagram to visually locate each connector and header we describe.

Note
This components diagram will be slightly different because there are a number of models. We'll use the KD7-G motherboard as standard; all descriptions of connector and header will be based on the KD7-G motherboard.

All connectors, headers and switches mentioned here, will depend on your system configuration. Some features you may (or may not) have and need to connect or configure depending on the peripheral. If your system doesn't have such add-on cards or switches you can ignore some special feature connectors.

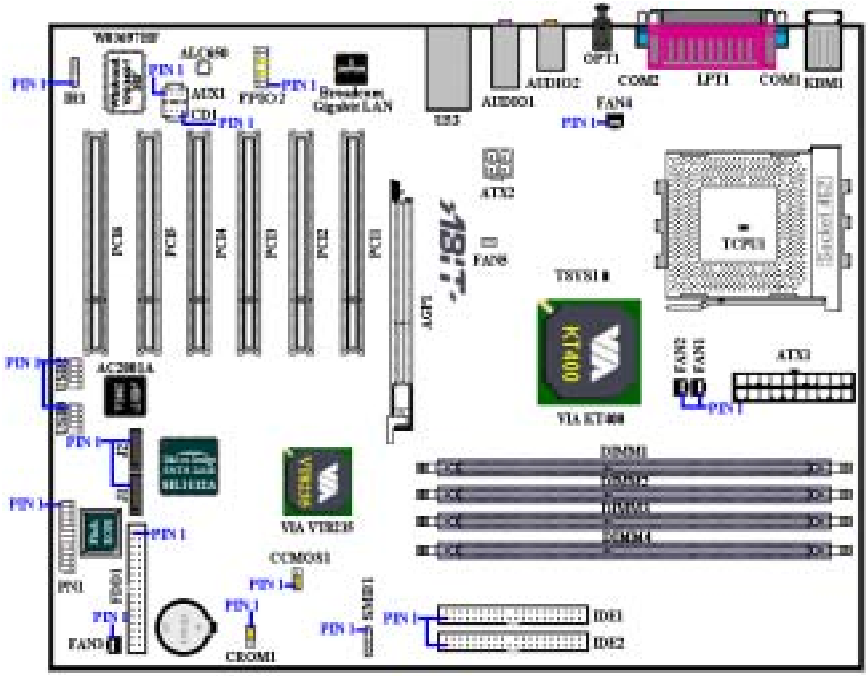
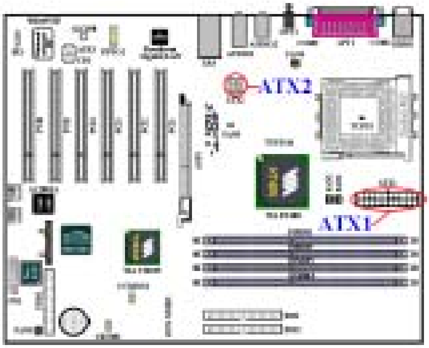


Figure 3-7. All connectors and headers for the KD7-G

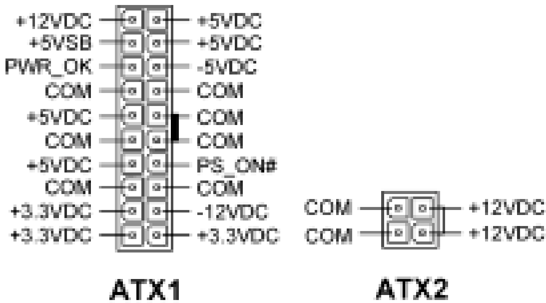
First, Let's see the headers that KD7-G uses, and what their functions are. We will show you all the connectors and headers.

(1). ATX1&ATX2: ATX Power Input Connector



KD7-B/KD7-S/KD7-G had designed two power connectors (ATX1 and ATX2), it is different from the regular mainboard power design. It can provide for power supply designed for Pentium® 4 processors, also can provide for general designed ATX power to connect it. It's a newly designed ATX12V1 +12VDC power with 300W, 20A +5VDC capacity at least for heavily loaded system, and 720mA +5VSB at least for supporting some special features.

Attach the connector from the ATX power supply to the ATX1 and ATX2 connectors here (General designed ATX power supply do not have ATX12V1 connector, so you don't need to connect anything to the ATX2 connector). Remember you have to push the connector from the ATX power supply firmly to the end with the ATX1 and ATX2 connectors, insuring that you have a good connection.

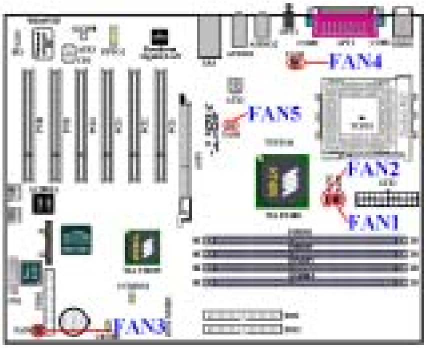


Note: *Watch the pin position and the orientation.*

Caution

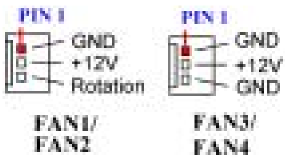
- If the power supply connectors are not properly attached to the ATX power supply, the power supply or add-on cards may be damaged.
- One end of AC power core connects to ATX power supply, and the other end (AC plug) will plug into the wall outlet. Be aware that when facing the wall outlet, the round hole is in the middle. The right side slot is called ground wire slot. It has a longer slot length than the left side slot. The left side slot is called the live wire slot. You can use an electroscope to detect its polarity or you can use a voltage meter to measure the voltage of both slot sides. If you insert an electroscope into the live wire slot, the electroscope will light up. Using a voltage meter, you will find that the live wire slot will register a higher voltage.
- If you reverse the polarity of AC plug, it may affect the life of computer equipment, or cause an electric shock when you touch the computer chassis. We suggest that you plug the computer AC plug to a three-hole wall outlet for better safety and to avoid electric shock.

(2). FAN1, FAN2, FAN3, FAN4 & FAN5: Fan Headers



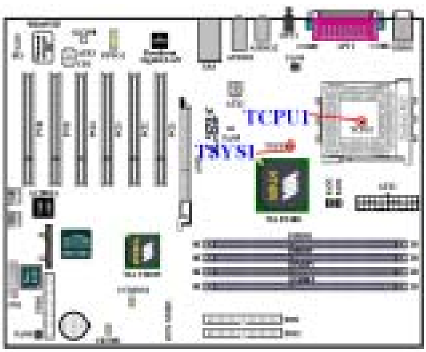
Attach the connector from the processor fan to the header named FAN1 or FAN2 (These two fan headers have a sense signal that can detect fan rotation speeds) and connector from the front chassis fan to the header FAN3. Attach the connector from the power fan or back chassis fan to FAN4 header and attache the connector from northbridge fan to the header named FAN5.

You must attach the CPU fan to the processor, or your processor will work abnormally or may be damaged by overheating. To prevent the computer chassis internal temperature from getting too high, also connect the chassis fan.



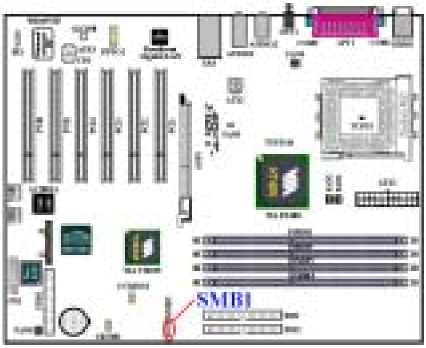
Note: *Watch the pin position and the orientation*

(3). TCPU1 & TSYS1: Temperature Thermistor

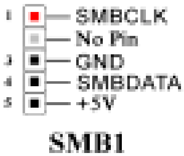


The TCPU1 is used to detect the CPU temperature. The TSYS1 is used to detect the system environment temperature. You can see the readings in the BIOS or in the hardware monitoring application main screen.

(4). SMB1: System Management Bus (SM-Bus) Header

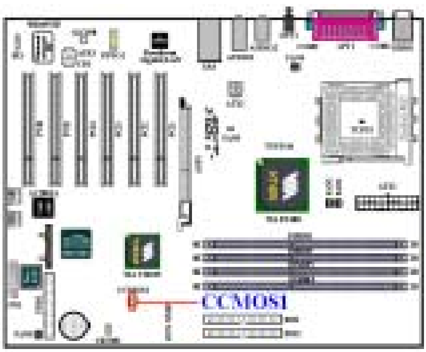


This header is reserved for the system management bus (SM-Bus). The SM-Bus is a specific implementation of an I^2C bus. I^2C is a multi-master bus, this means that multiple chips can be connected to the same bus and each one can act as a master by initiating a data transfer. If more than one master simultaneously tries to control the bus, an arbitration procedure decides which master gets priority. You can connect the devices which utilizes the SM-Bus.



Note: *Watch the pin position and the orientation*

(5). CCMOS1: CMOS Discharge Jumper

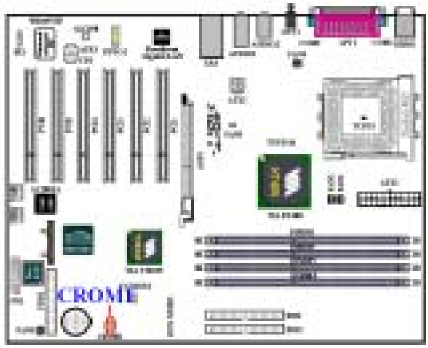


Jumper CCMOS1 discharge CMOS memory. When you install the motherboard, make sure this jumper is set for normal operation (pin 1 and 2 shorted).



Note
● Before you clear the CMOS, you have to first turn the power off (including the +5V standby power). Otherwise, your system may work abnormally. ● After updating your BIOS and before boot up, please clear the CMOS first. Then put the jumper to its default position. After that, you can reboot your system and ensure that your system is working fine.

(6). CROM1:S2K mode select Header

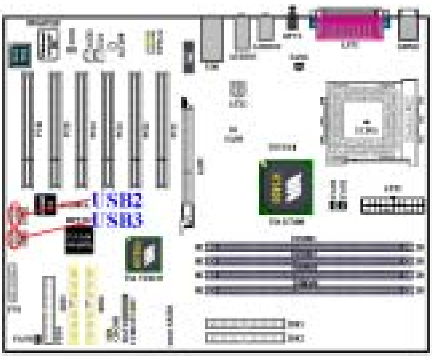


You can set the S2K bus, the bus between CPU and North Brige, operating mode as figure below. When setting jumper CROM1 to "**Strapping from boot ROM** "(Default), the timing of S2K bus is controlled by the internal boot rom and you enable the option "**CPU Fast Command Decode**" in the BIOS. The system performance will increase. When the jumper is set to "**Strapping from Hardware"**, the timing of S2K bus is controlled by CPU hardware and the system has better flexibility.

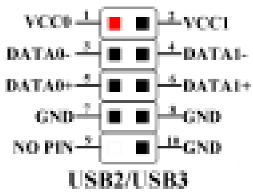


Note: *Watch the pin position and the orientation*

(7). USB2&USB3: Additional USB Plugs Headers



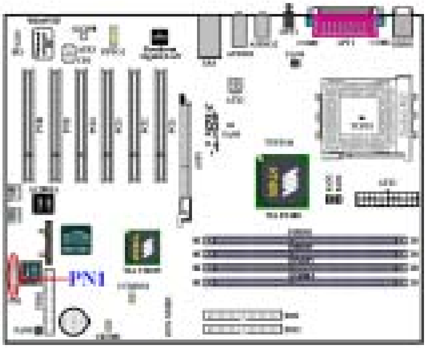
These headers are for connecting the additional USB port plugs. You can use the special USB port expansion cable. It provides four additional USB plugs. These USB plugs can be fixed on the back panel.



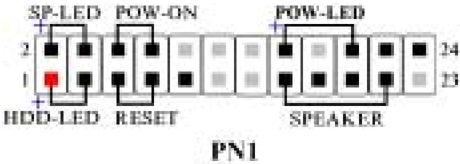
Note: *Watch the pin position and the orientation*

Note
The USB2 & USB3 headers supports USB 2.0 specification function, please use the special USB cable design for USB 2.0 specifications. Otherwise, it may cause an unstable or signal error situation.

(8). PN1 Headers: The Headers for Chassis's Front Panel Indicators and Switches



PN1 is for switches and indicators for the chassis's front panel, there are several functions that come from this header. You have to watch the pin position and the orientation, or you may cause LED do not light up. Figure below shows you the PN1 functions of the pins.



Note: *Watch the pin position and the orientation*

PN1 (Pin 1 & 3): HDD LED Header

Attach the cable from the case's front panel HDD LED to this header. If you install it in the wrong direction, the LED light will not illuminate correctly.

Note: *Watch the HDD LED pin position and the orientation.*

PN1 (Pin 5 & 7): Hardware Reset Switch Header

Attach the cable from the case's front panel Reset switch to this header. Press and hold the reset button for at least one second to reset the system.

PN1 (Pin 15-17-19-21): Speaker Header

Attach the cable from the system speaker to this header.

PN1 (Pin 2 & 4): Suspend LED Header

Insert the two-threaded suspend LED cable into this header. If you install it in the wrong direction, the LED light will not illuminate correctly.

Note: *Watch the Suspend LED pin position and the orientation.*

PN1 (Pin 6 & 8): Power On Switch Header

Attach the cable from the case's front panel power on switch to this header.

PN1 (Pin 16-18-20): Power On LED Headers

There is a specific orientation for pins 1 through 3. Insert the three-threaded power on LED cable to this header. Check to make sure the correct pins go to the correct connectors on the motherboard. If you install them in the wrong direction, the power LED light will not illuminate correctly.

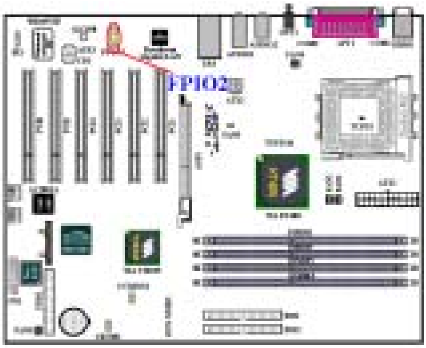
Note: *Watch the power LED pin position and orientation.*

For the PN1 pin's count-name list, please refer to table 3-2.

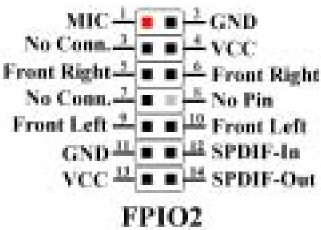
Table 3-2. PN1 pin count name list

PIN Name		Significance of signal	PIN Name		Significance of signal
PN1	PIN 1	HDD LED (+)	PN1	PIN 2	SP-LED (+)
	PIN 3	HDD LED (-)		PIN 4	SP-LED (-)
	PIN 5	Reset SW (-)		PIN 6	PWR-ON (+)
	PIN 7	Reset SW (+)		PIN 8	PWR-ON (-)
	PIN 9	No Connection		PIN 10	No Pin
	PIN 11	No Pin		PIN 12	No Pin
	PIN 13	No Pin		PIN 14	No Pin
	PIN 15	Speaker (+5V)		PIN 16	PWR LED (+)
	PIN 17	Speaker (GND)		PIN 18	No Pin
	PIN 19	Speaker (GND)		PIN 20	PWR LED (-)
	PIN 21	Speaker (Driver)		PIN 22	No Connection
	PIN 23	No Pin		PIN 24	No Connection

(9). FPIO2: Front Panel Input/Output Signals Header



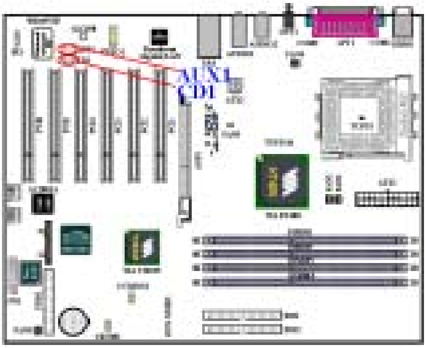
You'll see this header on KD7-B/KD7-S/KD7-G motherboard. This header is designed to connect the **ABIT Media XP** product. This header can provide the analog audio output signals for front right and front left channel. It also provides one digital S/PDIF output connector and one microphone input connector.

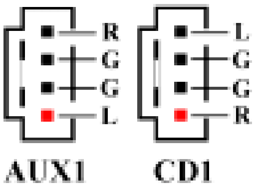


Note: *Watch the pin position and the orientation*

(10). <u>CD1& AUX1: CD audio and auxiliary audio signal input headers</u>

These connectors connect to the audio output of internal CD-ROM drive or add-on card audio output.

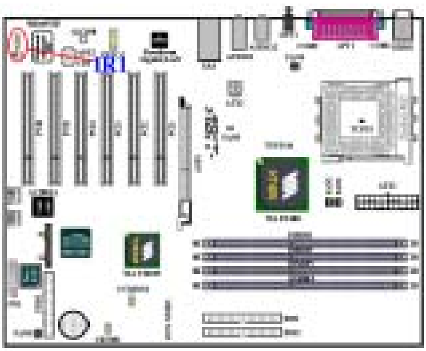


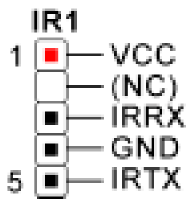


Note: *Watch the pin position and the orientation*

(11). <u>IR1: Infrared connector</u>

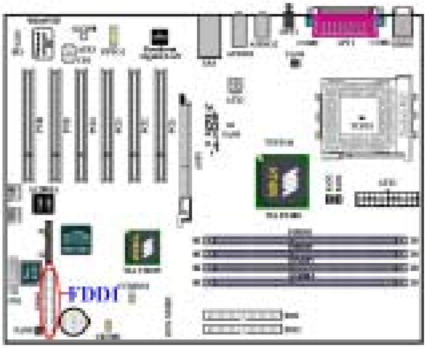
There is a specific orientation for pins 1 through 5, attch the connector from the IR KIT or IR device to the IR1 header. This motherboard supports standard IR transfer rates.





Note: *Watch the pin position and the orientation*

(12). FDD1 Connector

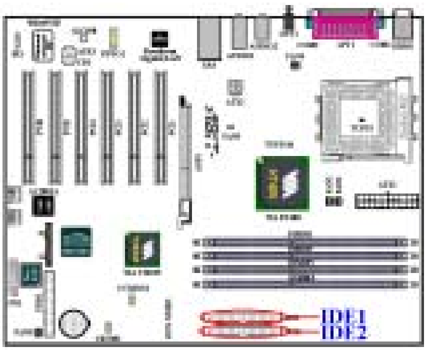


This 34-pin connector is called the "***floppy disk drive connector***". You can connect a 360K, 5.25", 1.2M, 5.25", 720K, 3.5'', 1.44M, 3.5" or 2.88M, 3.5" floppy disk drive.

A floppy disk drive ribbon cable has 34 wires and two connectors to provide the connection of two floppy disk drives. After connecting the single end to the FDD1, connect the two connectors on the other end to the floppy disk drives. In general, people only install one floppy disk drive on their computer system.

Note
A red mark on a wire typically designates the location of pin 1. You need to align the wire pin 1 to the FDD1 connector pin 1, and then insert the wire connector into the FDD1 connector.

(13). IDE1 and IDE2 Connectors



This motherboard provides two IDE ports (IDE1 & IDE2) to connect up to four IDE devices in Ultra DMA 133 mode by Ultra DMA 66 ribbon cables. Each cable has 40-pin 80-conductor and three connectors, providing two hard drive connections with the motherboard. Connect the single end (blue connector) at the longer length of ribbon cable to the IDE port on motherboard, and the other two ends (gray and black connector) at the shorter length of the ribbon cable to the connectors on hard drives.

If you want to connect two hard drives together through one IDE channel, you must configure the second drive to Slave mode after the first Master drive. Please refer to the HDD documentation for jumper settings. The first drive connected to IDE1 is usually referred to as "**Primary Master**", and the second drive as "**Primary Slave**". The first drive connected to IDE2 is referred to as "**Secondary Master**" and the second drive as "**Secondary Slave**".

Keep away from connecting one legacy slow speed device, like CD-ROM, together with another hard drive on the same IDE channel; this will decrease your integral system performance.

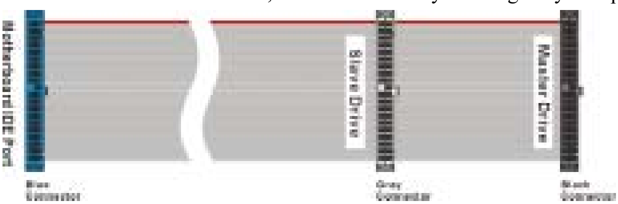
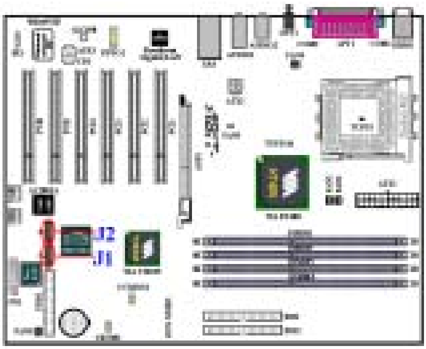


Figure 3-8. Ultra DMA 66 Ribbon Cable Outline

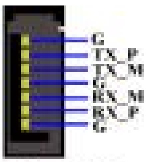
Note

- The Master or Slave status of the hard disk drive is set on the hard disk itself. Please refer to the hard disk drive user's manual.
- To connect Ultra DMA 100 & Ultra DMA 133 devices on IDE1 to IDE2, an Ultra DMA 66 cable is required.
- A red mark on a wire typically designates the location of pin 1. You need to align the wire pin 1 to the IDE connector pin 1, before inserting the wire connector into the IDE connector.

(14). J1 and J2 Connectors (Optional): Serial ATA Connectors



This motherboard provides two Serial ATA channels to connect two Serial ATA devices in Serial ATA 150 mode by special Serial ATA ribbon cables. J1 is the primary channel, and J2 is the secondary channel. Each cable has 7-pin 7-conductor and two connectors, providing one Serial ATA hard drive connection with the motherboard. Connect the single end of the ribbon cable to the Serial ATA port on the motherboard, and the other end of the ribbon cable to the connector on the Serial ATA hard drive.



Note: *Watch the pin position and the orientation*

Note

- To connect Serial ATA devices on J1 and J2, a Serial ATA cable is required.
- The Serial ATA controller only supports Ultra DMA/ATA-100 or higher hard drive. Do not use hard drives under this specification, or it won't work.
- Please install the Serial ATA storage devices from J1 (primary channel) to J2 (secondary channel) in order. When you install single Serial ATA storage device, we suggest that you should connect it to J1 (primary channel) connector.

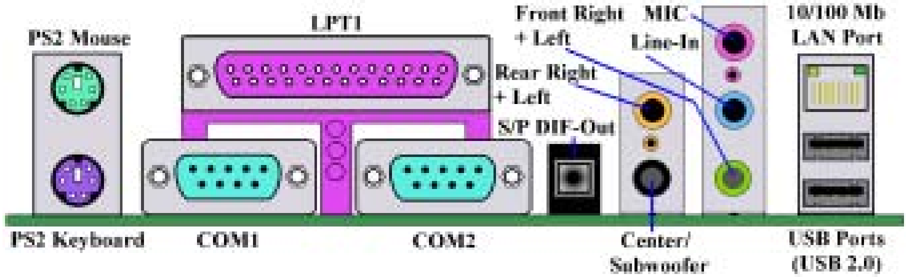


Figure 3-9. KD7-B/KD7-S/KD7-G back panel connectors

Figure 3-9 shows the KD7-B/KD7-S/KD7-G back panel connectors, these connectors are for connection to outside devices to the motherboard. We will describe which devices will attach to these connectors below.

(15). PS/2 Keyboard Connector



Attach a PS/2 keyboard connector to this 6-pin Din-connector. If you use an AT keyboard, you can go to a computer store to purchase an AT to ATX converter adapter, then you can connect your AT keyboard to this connector. We suggest you use a PS/2 keyboard for best compatibility.

(16). PS/2 Mouse Connector



Attach a PS/2 mouse to this 6-pin Din-connector.

(17). Serial Port COM1 & COM2 Port Connectors

This motherboard provides two COM ports, you can connect an external modem, mouse or other devices that support this communication protocol to these connectors.

You can decide which external devices you want to connect to COM1 and COM2. Each COM port can only have one device connected at a time.

(18). Parallel Port Connector

This parallel port is also called an "**LPT**" port, because it usually connects to the printer. You can connect other devices that support this communication protocol, like an EPP/ECP scanner, etc.



(19). <u>OPT1: S/PDIF-Out Connector</u>

This connector can let you using the optical cable to connection the device, and transfer the digital data through it. You can connect this signal to the digital decoder to decode and transfer the digital signal to the analog signal.

(20). <u>Audio1 and Audio2 Connectors</u>

Audio1 and Audio2 connectors are audio connectors for analog audio signal in or out.

Mic In Connector: You can connect the plug from the microphone to this connector. Do not connect other audio (or signal) sources to this connector.

Line In Connector: You can connect the TV adapter audio output signal, or external audio sources, like a CD walkman, video camcorder, VHS recorder audio output signal plug to this connector. Your audio software can control the input level for the line-in signal.

Front Right + Left Channel Connector: You can connect the plug from the front channel speakers or front channel amplifier to this connector. Please make sure you are connect to the front channel speakers or front channel amplifier correctly, otherwise you may get the wrong sound positioning.

Rear Right + Left Channel Connector: You can connect the plug from the rear channel speakers or rear channel amplifier to this connector. Please make sure you are connect to the rear channel speakers or rear channel amplifier correctly, otherwise you may get the wrong sound positioning.

Center + Subwoofer Channel Connector: You can connect the plug from the center/subwoofer channel speakers or center/subwoofer channel amplifier to this connector. Please make sure you are connect to the center/subwoofer channel speakers or center/subwoofer channel amplifier correctly, otherwise you may get the wrong sound positioning.

(21). <u>10/100 Mb LAN Port Connector（RJ-45）</u>

This motherboard provides one built-in 10/100 Mb LAN port, this jack is for connecting the RJ-45 cable from the local area network hub to your computer. We suggest you use the category 5 UPT (**U**nshielded **T**wisted **P**air) or STP (**S**hielded **T**wisted **P**air) cable to make this connection. The connection length from the hub to the computer is best to be kept under 100 meter.

The green LED shows the connection situation. If the network active well, this LED will light on. The yellow LED shows if the data is active or not. If the computer is translating or receiving data from the network, this LED will flicker.

(22). <u>USB Port Connectors</u>

This motherboard provides two USB ports. Attach the USB connector from the individual device to these connectors.
You can attach USB devices such as a, scanner, digital speakers, monitor, mouse, keyboard, hub, digital camera, joystick etc. to one of each USB connector. You must make sure your operating system supports this feature and you may need to install an additional driver for individual devices. In Please refer to your device user's manual for detailed information.


External FAX/Modem


Digital Tablet


Digital Camera

Note

Please use the special USB cable designed for USB 2.0 specifications. Otherwise, it may cause not stable or signal error situation.

Note

This chapter contains many color drawing diagram and photos, we strongly recommend you to read this chapter use the PDF file we gave you that store in the CD-Title. It will provide you the better look and clearly color identify.

Chapter 4. Introducing the BIOS

The BIOS is a program located on a Flash Memory chip on the motherboard. This program will not be lost when you turn the computer off. This program is also referred to as the boot program. It is the only channel the hardware circuit has to communicate with the operating system. Its main function is to manage the setup of the motherboard and interface card parameters, including simple parameters such as time, date, hard disk drive, as well as more complex parameters such as hardware synchronization, device operating mode, **SoftMenu III** features and and setup of CPU speed. The computer will operate normally, or will operate at its best, only if all of these parameters are correctly configured through the BIOS.

Don't change the parameters inside the BIOS unless you fully understand the meanings and consequences

The parameters inside the BIOS are used to setup the hardware synchronization or the device-operating mode. If the parameters are not correct, they will produce errors, the computer will crash, and sometimes you will even not be able to boot the computer after it has crashed. We recommend that you do not change the parameters inside the BIOS unless you are very familiar with them. If you are not able to boot your computer anymore, please refer to the section "**CCMOS1 Header**" in Chapter 3 to see how to discharge the CMOS date.

When you start the computer, the BIOS program controls it. The BIOS first operates an auto-diagnostic test called POST (**P**ower **O**n **S**elf **T**est) for all of the necessary hardware. It then configures the parameters of the hardware synchronization, and detects all of the hardware. Only when these tasks are completed does it give up control of the computer to the program to the next level, which is the operating system (OS). Since the BIOS is the only channel for hardware and software to communicate, it is the key factor for system stability, and in insuring that your system performs at its best. After the BIOS has achieved the auto-diagnostic and auto-detection operations, it will display the following message:

PRESS DEL TO ENTER SETUP

The message will be displayed for three to five seconds, if you press the **Del** key, you will access the BIOS Setup menu. At that moment, the BIOS will display the following message:

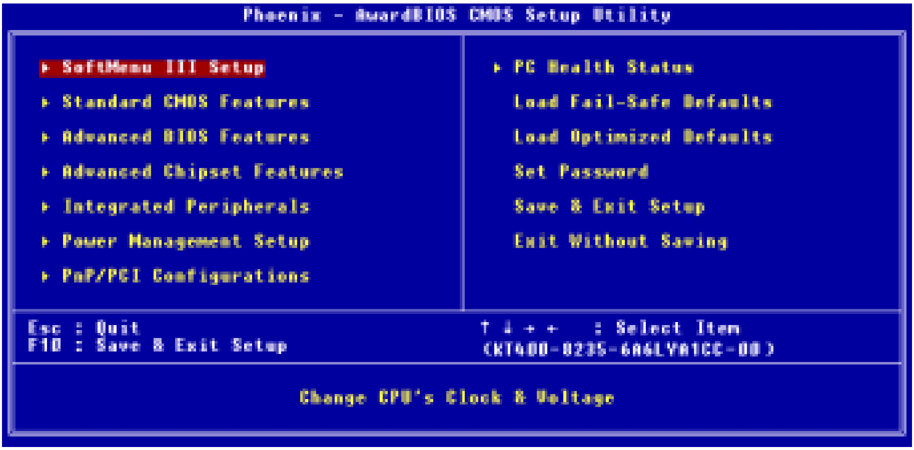


Figure 4-1. CMOS Setup Utility

In the BIOS Setup main menu of Figure 4-1, you can see several options. We will explain these options step by step in the following pages of this chapter, but let us first see a short description of the function keys you may use here:

- Press **Esc** to quit the BIOS Setup.
- Press ↑ ↓ ←→ (up, down, left, right) to choose, in the main menu, the option you want to confirm or to modify.
- Press **F10** when you have completed the setup of BIOS parameters to save these parameters and to exit the BIOS Setup menu.
- Press **Page Up/Page Down** or **+/-** keys when you want to modify the BIOS parameters for the active option.

Note

Parts of the screenshot may not same as you see on your screen, because the BIOS version may change periodically. However, most of the functions covered in this manual will work. We suggest that you go to our WEB site often to see if there are new manual releases. Then you can check the newly updated BIOS items.

Computer Knowledge: CMOS Data

Maybe you have heard somebody saying that his or her CMOS DATA was lost. What is the CMOS? Is it important? The CMOS is the memory used to store the BIOS parameters that you have configured. This memory is passive. You can read its data, and you can also store data in it. But this memory has to be powered by a battery, in order to avoid any loss of its data when the computer is turned off. Since you may have to change the CMOS battery when it is out of power and if doing so, you will loose all CMOS data, therefore, we recommend that you write down all the parameters of your hardware, or to put a label with these parameters on your hard disk.

4-1. CPU Setup [SOFT MENU™ III]

The CPU can be setup through a programmable switch (**CPU SOFT MENU™ III**), that replaces the traditional manual hardware configuration. This feature allows the user to more easily complete the installation procedures. You can install the CPU without configuring any jumpers or switches. The CPU must be setup according its specifications. In the first option, you can press <**Enter**> at any time to display all the items that can be chosen for that option.

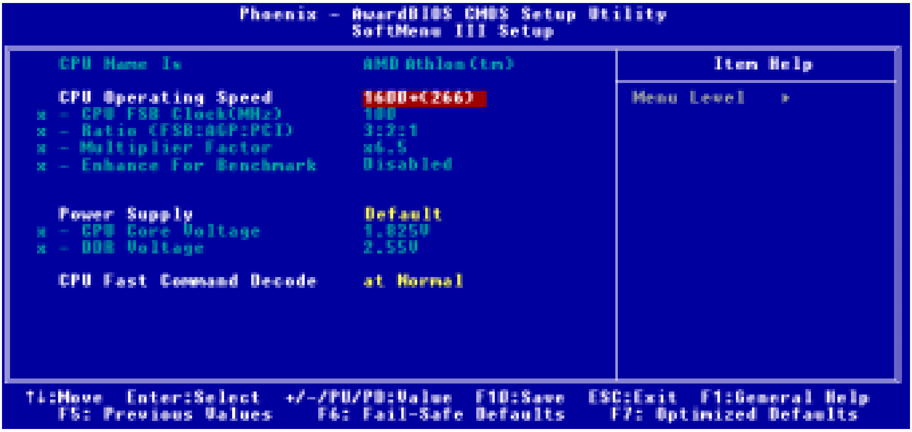


Figure 4-2. CPU SOFT MENU™ III

CPU Name Is:

- ➢ AMD Athlon (tm) XP
- ➢ AMD Athlon (tm)
- ➢ AMD Duron (tm)

CPU Operating Speed:

Select the CPU speed according the type and the speed of your CPU. For AMD Athlon™ XP, Athlon™ and Duron™ processors, you can choose the following settings (This example is for AMD Athlon™ XP processor):

➢User Define	➢1500+ (266)	➢1600+ (266)	➢1700+ (266)	➢1800+ (266)	➢1900+ (266)
➢2000+ (266)	➢2100+ (266)	➢2200+ (266)	➢2400+ (266)	➢2600+ (266)	➢2700+ (333)
➢2800+ (333)					

Note

The display of this item might be different when you installed the different type of processors. We just show you an example here.

User defined external clock and multiplier factor:

➢ **User Defined**

☠☠☠☠ **Warning** ☠☠☠☠

The wrong settings of the multiplier and external clock in certain circumstances may cause CPU damage

The wrong settings of the multiplier and external clock in certain circumstances may cause CPU damage. Setting the working frequency higher than the specifications of PCI or of processor may cause abnormal memory module functioning, system hangs, hard disk drive data loss, abnormal functioning of the VGA card, or abnormal functioning with other add-on cards. Using non-specification settings for your CPU is not the intention of this explanation, for which should be used for engineering testing only, not for normal applications.

If you use non-specification settings for normal operation, your system may not be stable, and may affect system reliability. Also, we do not guarantee the stability and compatibility for settings that are not within specification, and any damage of any elements on the motherboard or peripherals, is not our responsibility.

When you complete the setting in this option, POST will not check if the actual running speed is the same as the speed set up by you.

✏ ***CPU FSB Clock (MHz):***

You can increase the CPU FSB clock speed here. This means that you can independently increase the CPU FSB clock speed. The DEC (decimal) numbers from 100 to 250 are available, with the default setting at *100*. You can change this setting to increase CPU FSB clock speed. CPU FSB speed above the standard bus speed is supported, but not guaranteed due to the CPUspecs.

✏ ***Ratio (FSB:AGP:PCI):***

Three options are available: 3:2:1 → 4:2:1 → 5:2:1. This item lets you set the processor **F**ront **S**ide **B**us, AGP and PCI clock. It correlates with the processor FSB clock you set. Many of options are available, you can choose the divider ratio you want. If the setting is *3:2:1*. In this case, the AGP clock will be the processor FSB clock divided by 3 and times 2. The PCI clock will be the processor FSB clock divided by 3 and times 1.

Note: *According your processor FSB frequency, the default values will change also.*

✏ ***Multiplier Factor:***

Three are several settings, shown as below:

➢x5	➢x5.5	➢x6	➢x6.5	➢x7	➢x7.5	➢x8	➢x8.5	➢x9
➢x9.5	➢x10	➢x10.5	➢x11	➢x11.5	➢x12	➢x12.5	➢ x13	➢x13.5
➢x14	➢x15	➢x16	➢x16.5	➢x17	➢x18	➢x19	➢x20	➢x21
➢x22.5								

✏ ***Enhance For Benchmark:***

Two options are available: Disabled → Enabled. The default setting is *Disabled*. This item can improving your processor and system performance.

Normally, we do not recommend that you use the "**User Define**" option to setup CPU speed and PCI clock. This option is for setup of future CPUs whose specifications are still unknown. The specifications of all present CPUs are included in the default settings. Unless you are very familiar with all CPU parameters, it is very easy to make mistakes when you define the external clock and the multiplier factor by yourself.

Solution in case of booting problem due to invalid clock setup:

Normally, if the CPU clock setup is wrong, you will not be able to boot. In this case, turn the system off then on again. The CPU will automatically use its standard parameters to boot. You can then enter the BIOS Setup again and set up the CPU clock. If you can't enter the BIOS setup, you must try turning the system on a few times (3 ~ 4 times) or press "**INSERT**" key when turning on and the system will automatically use its standard parameters to boot. You can then enter BIOS SETUP again and set up the new parameters.

When you change your CPU:

This motherboard has been designed in such a way that you can turn the system on after having inserted a CPU in the socket without having to configure any jumpers or DIP switches. But if you change your CPU, normally you just have to turn off the power supply (mechanical off), change the CPU and then, set up the CPU parameters through **SOFT MENU™ III**. However, if the new CPU is slower than the old one (and is same brand and type), we offer you two methods to successfully complete the CPU change operation.

Method 1: Setup up the CPU for the lowest speed for its brand. Turn the power supply off (mechanical off) and change the CPU. Then turn the system on again, and set up the CPU parameters through **SOFT MENU™ III**.

Method 2: Since you have to open the computer case when you change the CPU, it could be a good idea to use the CCMOS jumper to erase the parameters of the original CPU and to enter BIOS Setup to set up CPU parameters again.

Attention
After setting up the parameters and leaving the BIOS SETUP, and having verified that the system can be booted, do not press the Reset button or turn off the power supply. Otherwise the BIOS will not read correctly, the parameters will fail and you must enter **SOFT MENU™ III** again to set up the parameters all over again.

Power Supply:

This option allows you to switch between Default and User Define voltages.

➤ **Default:** The system will detect the CPU type and select the proper voltage automatically. When it is enabled, the option "**CPU Core Voltage**" will show the current voltage setting that is defined by the CPU and this will not be changeable. We recommend using this CPU default setting and not changing it unless the current CPU type and voltage setting can not be detected or is not correct.

➤ **User Define:** This option lets the user select the voltage manually. You can change values of the "**CPU Core Voltage**" and "**DDR Voltage**" option lists by using the arrow up and arrow down keys.

CPU Fast Command Decode:

Two options are available: at Normal ➔ to Fast or at Fast ➔ to Normal. This will depends which state you choose. If you set this item from "**at Fast**" to "**to Normal**", when you reboot the system and finish the POST process, the state will change to your new setting (Here's *to Normal*). After that, if you go to view the BIOS menu again, you will see this item shows "**at Normal**", if you press the <**Enter**> key, you'll see the two options: at Normal ➔ to Fast, and the default setting is *at Normal*. If you set this item from "**at Normal**" to "**to Fast**", and go through the same process we mentioned before, you will see this item shows "**at Fast**", if you press the <**Enter**> key, you'll see the two options: at Fast ➔ to Normal, and the default setting is *at Fast*. You can select item if you want CPU decode address is faster or normal speed. We suggest you choose *to Normal* for greatest stability. Should you want increased performance then you can select *to Fast*. You have to set the jumper on the mainboard called "**CROM**" pin 1 and pin 2 short, then you can see this item appear in this menu.

4-2. Standard CMOS Features Setup Menu

This contains the basic configuration parameters of the BIOS. These parameters include date, hour, VGA card, floppy disk and HDD settings.

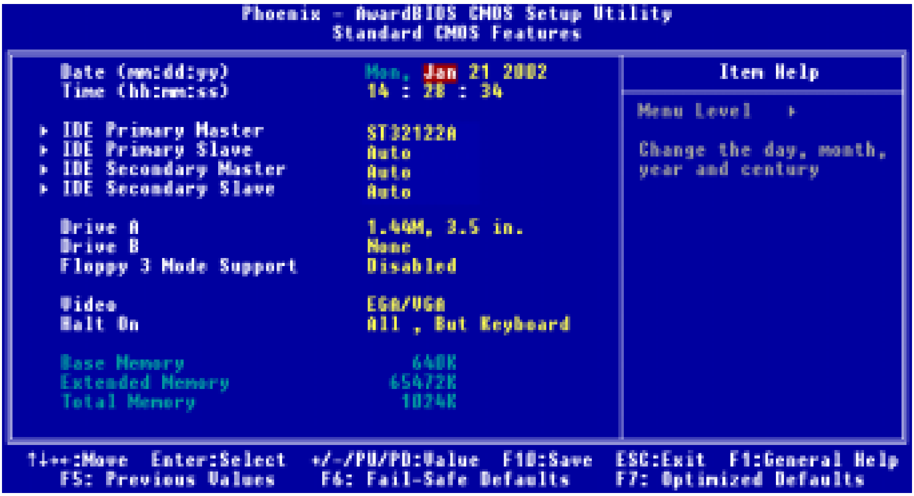


Figure 4-3A. Standard CMOS Setup Screen Shot

Date (mm:dd:yy):

You can set the date in this item: month (mm), date (dd) and year (yy).

Time (hh:mm:ss):

You can set the time in this item: hour (hh), minute (mm) and second (ss).

IDE Primary Master / Slave and IDE Secondary Master / Slave:

These items have a sub-menu to let you choose further options. You can refer to figure 4-3B to check what options are available.

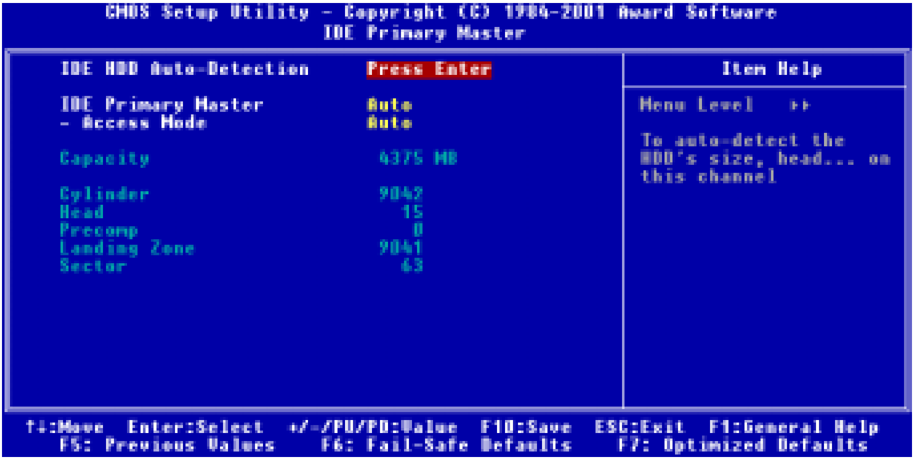


Figure 4-3B. IDE Primary Master Setup Screen Shot

IDE HDD Auto-Detection:

When you press the <**Enter**> key for the BIOS to auto detect all detailed parameters of the hard disk drivers (HDD). If auto detection is successful, the correct values will be shown in the remaining items of this menu.

Note
❶ A new IDE HDD must be first formatted, otherwise it can't be read or write. The basic step in using a HDD is to run FDISK, and then FORMAT the drive. Most current HDDs have already been subjected to low-level format at the factory, so you can probably skip this operation. Remember though, the primary IDE HDD must have its partition set to active within the FDISK procedure.
❷ If you are using an old HDD that is already formatted, auto detection can't detect the correct parameters. You may need to do a low-level format or set the parameters manually, and then check if the HDD is working.

IDE Primary Master:

Three settings are available: None ➔ Auto ➔ Manual. The default setting is *Auto.* If you choose Auto, the BIOS will automatically check what kind hard disk you are using. If you want to set the HDD parameters yourself, make sure you fully understand the meaning of the parameters, and be sure to refer to the manual provided by the HDD manufacture to get the settings right.

✑ ***Access Mode:***

Since old operating systems were only able to support HDDs with capacities no bigger than 528 MB, any hard disk with more than 528 MB was unusable. AWARD BIOS features a solution to this problem: you can, according to your operating system, choose four operating modes: CHS ➔ LBA ➔ Large ➔Auto.

The HDD auto detection option in the sub-menu will automatically detect the parameters of your hard disk and the mode supported.

➢ ***CHS (Normal mode):***

Standard normal mode supports hard disks of up to 528 MB or less. This mode directly uses positions indicated by Cylinders (CYLS), Heads, and Sectors to access data.

➢ ***LBA (Logical Block Addressing) mode:***

The earlier LBA mode can support HDD capacities of up to 8.4 GB, and this mode uses a different method to calculate the position of disk data to be accessed. It translates Cylinders (CYLS), Heads and Sectors into a logical address where data is located. The Cylinders, Heads, and Sectors displayed in this menu do not reflect the actual structure of the hard disk, they are just reference values used to calculate actual positions. Currently, all high capacity hard disks support this mode, that's why we recommend you use this mode. Currently, the BIOS can support the INT 13h extension function, enabling the LBA mode to support hard disk drive capacities exceeding 8.4 GB.

➢ ***Large Mode:***

When the number of cylinders (CYLs) of the hard disk exceeds 1024 and DOS is not able to support it, or if your operating system does not support LBA mode, you should select this mode.

➢ ***Auto:***
Just let the BIOS detect your HDD access mode and make the decisions.

✑ ***Capacity:***

This item auto displays your HDD size. Note that this size is usually slightly greater than the size given by a disk checking program of a formatted disk.

Note
All the items below are available when you set the item *Primary IDE Master* to *Manual*.

✑ ***Cylinder:***

When disks are placed directly above one another along the shaft, the circular vertical "slice" consisting of all the tracks located in a particular position is called a cylinder. You can set the number of cylinders for a HDD. The minimum number you can enter is 0, the maximum number you can enter is 65535.

✑ ***Head:***

This is the tiny electromagnetic coil and metal pole used to create and read back the magnetic patterns on the disk (also called the read/write head). You can configure the number of read/write heads. The minimum number you can enter is 0, the maximum number you can enter is 255.

✎ ***Precomp:***

The minimum number you can enter is 0, the maximum number you can enter is 65535.

✎ ***Landing Zone:***

This is a non-data area on the disk's inner cylinder where the heads can rest when the power is turned off. The minimum number you can enter is 0, the maximum number you can enter is 65535.

✎ ***Sector:***

The minimum segment of track length that can be assigned to stored data. Sectors usually are grouped into blocks or logical blocks that function as the smallest units of data permit. You can configure this item to sectors per track. The minimum number you can enter is 0, the maximum number you can enter is 255.

Driver A & Driver B:

If you have installed the floppy disk drive here, then you can select the type of floppy drive it can support. Six options are available: None ➔ 360K, 5.25 in. ➔ 1.2M, 5.25in. ➔ 720K, 3.5 in. ➔ 1.44M, 3.5 in. ➔ 2.88M, 3.5 in.

Floppy 3 Mode Support:

Four options are available: Disabled ➔ Driver A ➔ Driver B ➔ Both. The default setting is *Disabled*. 3 Mode floppy disk drives (FDD) are 3.5” drives used in Japanese computer systems. If you need to access data stored in this kind of floppy, you must select this mode, and of course you must have a 3 Mode floppy drive.

Video:

You can select the VGA modes for your video adapter, four options are available: EGA/VGA ➔ CGA 40 ➔ CGA 80 ➔ MONO. The default setting is *EGA/VGA*.

Halt On:

You can select which type of error will cause the system to halt. Five options are available: All Errors ➔ No Errors ➔ All, But Keyboard ➔ All, But Diskette ➔ All, But Disk/Key. The default setting is *All, But Keyboard*.

You can see your system memory list in the lower right box, it shows the *Base Memory*, *Extended Memory* and *total Memory size* configurations in your system. It is detected by the system during boot-up procedure.

4-3. Advanced BIOS Features Setup Menu

In each item, you can press <**Enter**> at any time to display all the options for this item.

Attention
Advanced BIOS Features Setup Menu has already been set for maximum operation. If you do not really understand each of the options in this menu, we recommend you use the default values.



Figure 4-4. Advanced BIOS Features Setup Screen

Virus Warning:

Two options are available: Enabled or Disabled, the default setting being *Disabled*.

When this feature is enabled, if there is any attempt from a software or an application to access the boot sector or the partition table, the BIOS will warn you that a boot virus is attempting to access the hard disk.

Quick Power On Self Test:

Two options are available: Enabled or Disabled, the default setting is *Enabled*. After the computer has been powered on, the BIOS of the motherboard will run a series of tests in order to check the system and its peripherals. If the Quick Power on Self-Test feature is enable, the BIOS will simplify the test procedures in order to speed up the boot process.

First Boot Device:

When the computer boots up, the BIOS attempts to load the operating system from the devices in the sequence selected in these items: floppy disk drive A, LS120, ZIP100 devices, hard drive C, SCSI hard disk drive or CD-ROM. There are ten options for the boot sequence that you can choose (The default setting is *Floppy*.):

Eleven options are available: Floppy ➔ LS120 ➔ HDD-0 ➔ SCSI ➔ CDROM ➔ HDD-1 ➔ HDD-2 ➔ HDD-3 ➔ ZIP100 ➔ LAN ➔ SATA ➔Disabled ➔ Back to Floppy. The default setting is *Floppy*.

Second Boot Device:

Description is the same as the *First Boot Devic.* The default setting is *HDD-0*.

Third Boot Device:

Description is same as the *First Boot Device.* The default setting is *CDROM.*

Boot Other Device:

Two options are available: Disabled or Enabled. The default setting is *Enabled*. This setting allows the BIOS to try to boot devices other than the three which are listed in the above First, Second and Third Boot Devices. If you set to Disabled, the BIOS will boot from only the three kinds of boot devices that are set above.

Swap Floppy Drive:

Two options are available: Disabled or Enabled. The default setting is *Disabled.* When this feature is enabled, you don't need to open the computer case to swap the position of floppy disk drive connectors. Drive A can be set as drive B and drive B can be set as drive A.

Boot Up Floppy Seek:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When the computer boots up, the BIOS detects if the system has a FDD or not. When this item is set to *Disabled*, if the BIOS detects no floppy drive, it will display a floppy disk drive error message. If this item is disabled, the BIOS will skip this test.

Boot Up NumLock Status:

➤ Off: At boot up, the Numeric Keypad is in cursor control mode.
➤ On: At boot up, the Numeric Keypad is in numeric mode. (Default Settings)

Security Option:

This option can be set to System or Setup. The default setting is *Setup*. After you have created a password through *Set Password* at the CMOS setup main menu, this option will deny unauthorized users access to your system (System) or the ability to modify your computer setup (BIOS Setup).

➤**SETUP:** When you choose Setup, a password is required only when accessing the BIOS Setup. If the correct password is not given, you can't enter the BIOS setup menu. (Default setting)

➤**SYSTEM:** When you choose System, a password is required each time the computer boots up. If the correct password is not given, the system will not start.

To disable security, select *Set Password* at main menu and then you will be asked to enter password. Do not type anything and just press the *Enter* key and it will disable security. Once security is disabled, the system will boot and you can enter the *BIOS setup menu* freely.

Note

Don't forget your password. If you forget the password, you will have to open the computer case and clear all information in the CMOS before you can start up the system. But by doing this, you will have to reset all previously set options.

APIC Mode:

Two options are available: Disabled or Enabled. If you set to *Enabled*, the next item will be available to choose. When you set it to *Disabled*, the system will use the default six PCI IRQs for all devices, and will not increase the number of PCI IRQs.

Note
Assume you enable this item then installing the Windows® 2000 or Windows® XP operating system, after that, if you disable this item then reboot your system, your operating system will hang. You have to change this item setting to *Enabled* then your operating system will back to normal.

✑ ***MPS Version Ctrl For OS:***

This option specifies which version of MPS the motherboard will use.

Three options available: 1.1 ➔ 1.4. MPS stands for **M**ulti-**P**rocessor **S**pecification. If you use an older OS for multiple processors executing, please set this option to 1.1.

OS Select For DRAM > 64MB:

Two options are available: Non-OS2 or OS2. The default setting is *Non-OS2*. When the system memory is bigger than 64MB, the communication method between the BIOS and the operating system will differ from one operating system to another. If you use OS/2, select *OS2*; if you are using another operating system, select *Non-OS2*.

Report No FDD For OS:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When you are running an older Windows operating system (such as Windows® 95) without a floppy drive, set this item to *Enabled*. Otherwise, set it to *Disabled*.

Delay IDE Initial (Secs):

This item is used to support some old models or special types of hard disks or CD-ROMs. They may need a longer amount of time to initialize and prepare for activation. Since the BIOS may not detect those kinds of devices during system booting. You can adjust the value to fit such devices. Larger values will give more delay time to the device. The minimum number you can enter is 0, the maximum number you can enter is 15. The default setting is *0*.

Disable unuse DIMM/PCI Clk:

Two options are available: Yes or No. The default setting is *Yes*. When set the option to *Yes*, system will automatically detect the unused DIMM and PCI slots, and stop sending clock signal to these unused slots. If this option is set to *No*, system will always send clock signal to all slots.

Note
Some adapters cannot be automatically detected by the system, and will cause malfunction. Please set this option to *no*. The problem can be solved.

4-4. Advanced Chipset Features Setup Menu

The Chipset Features Setup Menu is used to modify the contents of the buffers in the chipset on the motherboard. Since the parameters of the buffers are closely related to hardware, if the setup is not correct or is false, the motherboard will become unstable or you will not be able to boot up. If you don't know the hardware very well, use default values (i.e. use the "**Load Fail-Safe Defaults**" or "**Load Optimized Defaults**" option).

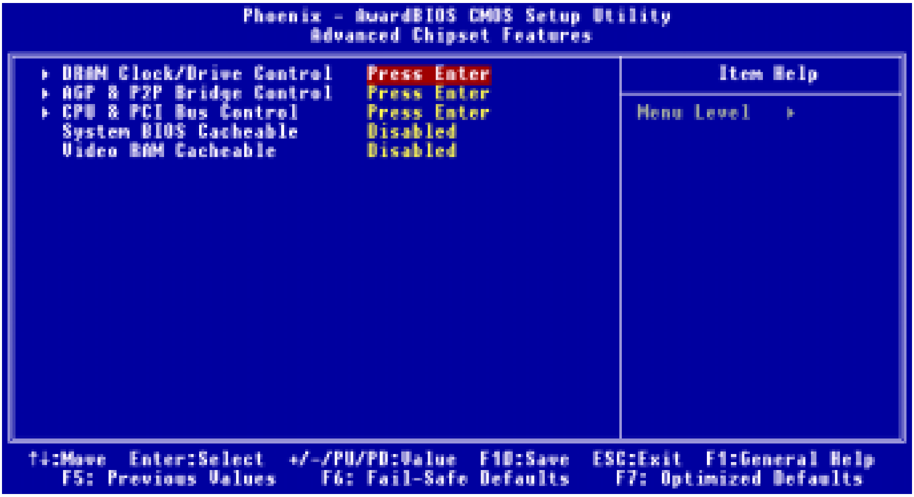


Figure 4-5A. Advanced Chipset Features Setup Screen

You can use the arrow keys to move between the items. Use **PgUP**, **PgDn**, **+** or **-** key to change the values. When you have finished setting up the chipset, press <**ESC**> to go back to the main menu.

Note
The parameters in this screen are for system designers, service personnel, and technically competent users only. Do not reset these values unless you understand the consequences of your changes.

DRAM Clock/Drive Control:

This item can let you set several items concerning the DRAM parameters. If you do not understand what each item does, please keep the default settings. Wrong settings may cause system unstablity, data loss or even prevent boot up!

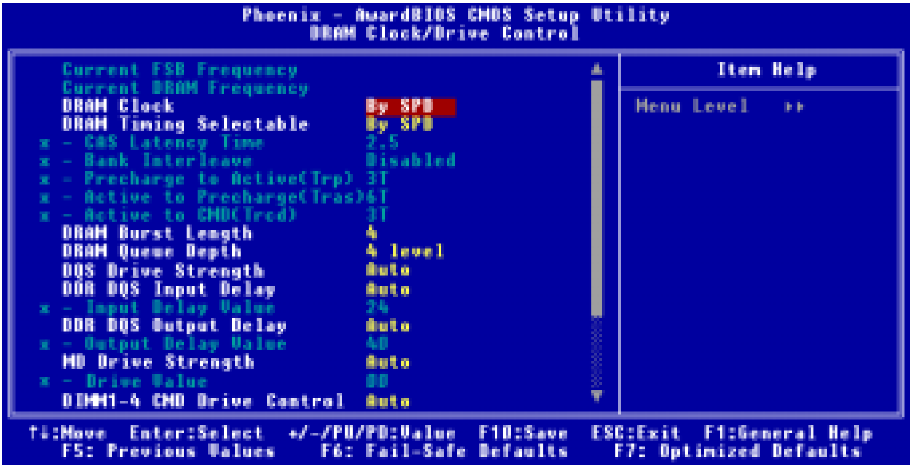


Figure 4-5B. DRAM Clock/Drive Control Upper Screen

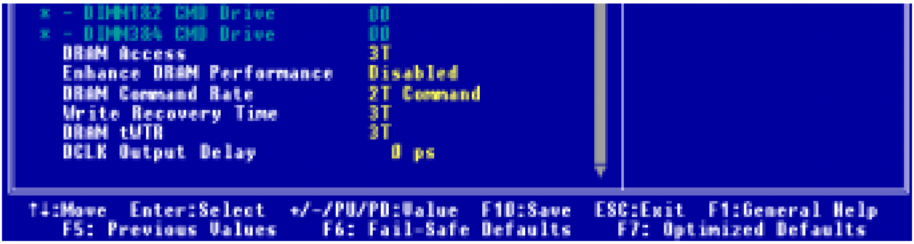


Figure 4-5C. DRAM Clock/Drive Control Lower Screen

Current FSB Frequency:

This item will show you the current system front side bus speed.

Current DRAM Frequency:

This item will show you the current DRAM bus speed.

DRAM Clock:

Five options are available: By SPD ➔ 100 MHz ➔ 133 MHz ➔ 166 ➔ 200 MHz. The default setting is *By SPD*. You can set the DRAM running speed, but if your DRAM module does not support the set speed, the system may be unstable or unable to boot up! If you set to *By SPD*, the BIOS will read the DRAM module SPD data and automatically set the DRAM running speed to the value stored in it. If you install a CPU its FSB operating at 333 MHz, this item will be unchangeable.

Note

The display of this item might be different when you installed the different type of DDR SDRAM. We just show you an example here.

What's SPD?

SPD (Serial Presence Detect) is a feature available on a number of SDRAM/DDR SDRAM DIMM modules that solves industry-wide compatibility problems by making it easier for the BIOS to properly configure the system to fit SDRAM performance profiles.

The SPD device is a small serial EEPROM chip that stores various information about the DIMM module's size, speed, voltage, drive strength, latency timing and the number of row and column addresses. When the BIOS reads these parameters during POST, it automatically adjusts the values in the CMOS Advanced Chipset Features screen for maximum reliability and performance.

Without SPD, the BIOS (or user) must make assumptions about the DIMM's parameters. Many users have found that their system will not boot if they are using non-SPD SDRAM DIMMs. As SDRAM and DDR SDRAM DIMM's is running at very fast clock speed and there is less room for error. An incorrect BIOS assumption about an SDRAM and DDR SDRAM DIMM's parameters can have serious consequences (e.g. failure to boot or fatal exception errors).

DRAM Timing Selectable:

Four options are available: Manual ➔ By SPD ➔ Turbo ➔ Ultra. The default setting is *By SPD*. When set to "**By SPD**", the BIOS will read the DRAM module SPD data and automatically set to the values stored in it. If you set to "**Manual**", the following five items will be available to let you make adjustments.

✏ ***CAS Latency Time:***

Four options are available: 1.5 ➔ 2 ➔ 2.5 ➔ 3. The default setting is *2.5*. You can select SDRAM CAS (**C**olumn **A**ddress **S**trobe) latency time according your SDRAM specification.

✏ ***Bank Interleave:***

Three options are available: Disabled ➔ 2 Bank ➔ 4 Bank. The default setting is *Disabled*. Depending on your SDRAM module structure, the 4-Way setting can offer the best performance. If you choose the wrong setting, the computer system will not run in a stable manner. For detailed information on your SDRAM module, please ask your SDRAM module manufacturer.

✏ ***Precharge to Active (Trp):***

Two options are available: 2T or 3T. The default setting is *3T*.

Trip timing value (Precharge time – time from precharge command to when back can be activated).

✏ ***Active to Precharge (Tras):***

Two options are available: 6T or 7T. The default setting is *7T*.

Tras timing value = Minimum bank active time from activate to precharge of same bank.

✏ ***Active to CMD (Trcd):***

Two options are available: 2T or 3T. The default setting is *3T*.

Trcd timing value = RAS to CAS latency + rd/wr command delay

DRAM Burst Length

DDR SDRAM modules provide a Burst mode that means an auto precharge function for programmable READ or WRITE burst lengths of 4 or 8 locations.

This means that if we set burst length to 8, the address bus will acesss 8 bytes each cycle to precharge, etc.

DRAM Queue Depth:

Three options are available: 2 Level ➔ 4 Level ➔ 3 level. The default setting is *4 Level*. This item sets DRAM queue depth to accommodate maximum memory throughput.

DQS Drive Strength:

Four options are available: Auto ➔ Low ➔ Medium ➔ High. The default setting is *Auto*. This item can adjust the DQS signal drive strength for data sent to DDR SDRAM. More DDR SDRAM DIMM installed, you may set it to *High*.

DDR DQS Input Delay:

Two options are available: Auto or Manual. The default setting is *Auto*. If you set to *Manual*, then the next item will be available.

✑ ***Input Delay Value:***

This item allows you to adjust the data input strobe delay time of memory. You can key in the HEX number into this section. The minimum number is 0000, and maximum number is 00FF.

DDR DQS Output Delay:

Two options are available: Auto or Manual. The default setting is *Auto*. If you set to *Manual*, then the next item will be available.

✑ ***Output Delay Value:***

This item allows you to adjust the data output strobe delay time of memory. You can key in the HEX number into this section. The minimum number is 0000, and maximum number is 00FF.

MD Drive Strength:

Two options are available: Auto or Manual. The default setting is *Auto*. If you set to *Manual*, then the next item will be available.

✑ ***Drive Value:***

This item allows you to adjust the memory data drive strength. You can key in the HEX number into this section. The minimum number is 0000, and maximum number is 00FF.

DIMM1-4 CMD Drive Control:

Two options are available: Auto or Manual. The default setting is *Auto*. This item can allow you to use auto or manual method to control the DIMM1 to DIMM4 command drive strength. If you set to *Manual*, then the next item will be available.

✏ **DIMM1&2 CMD Drive:**

This item allows you to adjust the memory data drive strength. You can key in the HEX number into this section. The minimum number is 0000, and maximum number is 00FF. Adjust the drive strength for command sent to DDR SDRAM (This adjustment for DIMM 1 and DIMM 2 only). This will depend on your DDR SDRAM specification and numbers to set. More DDR SDRAM DIMM installed, you may set it to higher values.

✏ **DIMM3&4 CMD Drive:**

This item allows you to adjust the memory data drive strength. You can key in the HEX number into this section. The minimum number is 0000, and maximum number is 00FF. Adjust the drive strength for command sent to DDR SDRAM (This adjustment for DIMM 3 and DIMM 4 only). This will depend on your DDR SDRAM specification and numbers to set. More DDR SDRAM DIMM installed, you may set it to higher values.

DRAM Access:

Two options are available: 2T ➔ 3T. The default setting is *3T*. This item allow you to choose the DRAM access time cycle, 2T can let you get quick DRAM acess time than 3T, and 3Tis a general DRAM setting.

Enhance DRAM Performance:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. This item can improve your system DRAM performance.

DRAM Command Rate:

Two options are available: 2T Command or 1T Command. The default setting is *2T Command*. When the host (northbridge) locates the desired memory address, it then processes the wait state of commands. Set it to *2T Command* for system compatibility or to *1T Command* for system performance.

Write Recovery time:

Two options are available: 2T or 3T. The default setting is *3T*. This is the period between two write times.

DRAM tWTR:

Two options are available: 1T or 3T. The default setting is *3T*. This is the Internal WRITE to READ command delay time period.

DCLK Output Delay:

Eight options are available: 0 ps ➔ 150 ps ➔ 300 ps ➔ 450 ps ➔ 600 ps ➔ 750 ps ➔ 900 ps ➔ 1050 ps. The default setting is *0 ps*. The northbridge will send an output signal to clock buffer of DRAM module, then clock buffer will feedback a signal to northbridge. The value you set will effect the delay time for DCLK output signal. This item will effect the DRAM module’s stability, we suggestion you set to *0 ps*.

AGP & P2P Bridge Control:

This item can let you sets several items concerning the AGP parameters. If you do not understand what each item doing, please keep the default settings as well. Wrong settings will cause system unstablity or even prevent boot up!

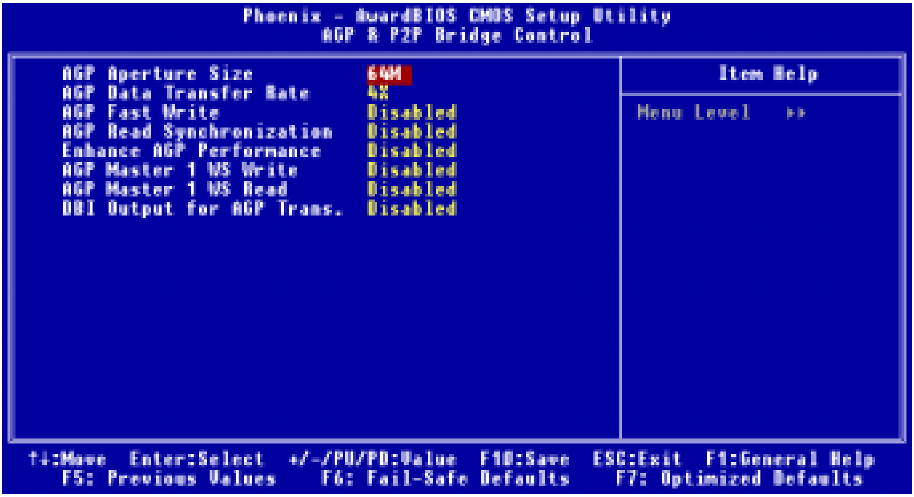


Figure 4-5D. AGP & P2P Bridge Control Screen

AGP Aperture Size:

Seven options are available: 256M ➔ 128M ➔ 64M ➔ 32M ➔ 16M ➔ 8M ➔ 4M ➔Back to 256M. The default setting is *64M*. If you installed the AGP adapter that supports AGP 3.0 specifications, this item will show you the additional two items 1G and 2G. This option specifies the amount of system memory that can be used by the AGP device. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. See www.agpforum.org for AGP information.

AGP Data Transfer Rate:

Two options are available: 4X ➔ 2X. The default setting is *4X* (When you installed AGP 4X adapter, If you installed the AGP adapter that supports AGP 3.0 specifications, this item will disappear.

Note
The 2X mode here means you are using the AGP 4X adapter, but set it to 2X mode via software or applications AGP concerning settings.

AGP Fast Write:

Two options are available: Disabled ➔ Enabled. The default setting is *Disabled*. If your AGP adapter can support this function, then you can choose *Enabled*. Otherwise, choose *Disabled*.

AGP Read Synchronization:

Two options are available: Disabled ➔ Enabled. The default setting is *Disabled*. Thi sitem can set AGP data read transaction to synchronization mode.

Enhance AGP Performance:

Two options are available: Disabled ➔ Enabled. The default setting is *Disabled*. This item can improve the AGP display performance.

AGP Master 1 WS Write:

Two options are available: Disabled ➔ Enabled. The default setting is *Disabled*. This implements a single delay when writing to the AGP Bus. When you set it to *Enabled*, two-wait states are used by the system, allowing for greater stability.

AGP Master 1 WS Read:

Two options are available: Disabled ➔ Enabled. The default setting is *Disabled*. This implements a single delay when reading to the AGP Bus. When you set it to *Enabled*, two-wait states are used by the system, allowing for greater stability.

DBI Output for AGP Trans.:

Two options are available: Disabled ➔ Enabled. The default setting is *Disabled*. In order to mitigate the effects of simultaneous switching outputs, AGP 3.0 adopts a scheme called **D**ynamic **B**us **I**nversion (DBI) to limit the maximum number of simultaneous transitions on source synchronous data transfers.

Note
This item will only show up when you installed the AGP 8X display adapter. Which means, if you installed AGP 4X or other display adapter that do not support AGP 3.0 specifications, this item won't show up.

CPU & PCI Bus Control:

This item can let you sets several items concerning the PCI parameters. If you do not understand what each item does, please keep the default settings as well. Wrong settings will cause system unstablity.

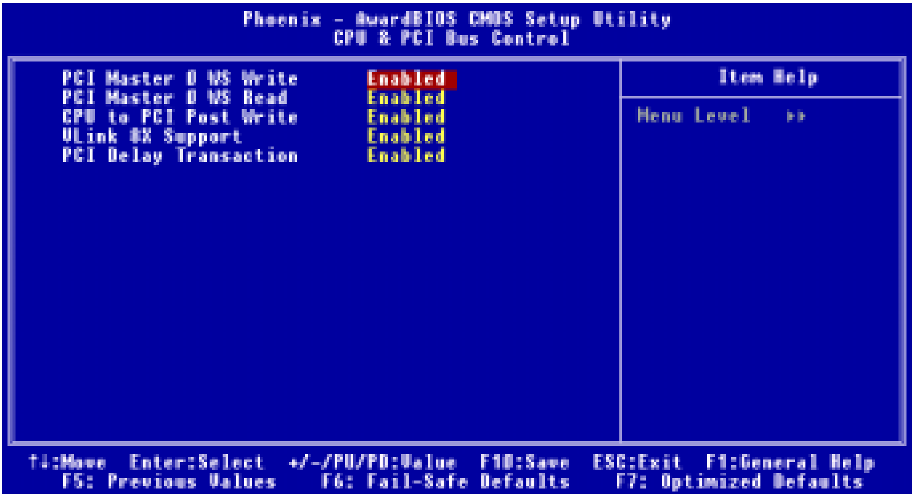


Figure 4-5E. CPU & PCI Bus Control Screen

<u>PCI Master 0 WS Write:</u>

Two options are available: Enabled or Disabled. The default setting is *Enabled*. When *Enabled,* writes to the PCI bus are executed with zero wait state (immediately) when PCI bus is ready to receive data. If it is set to *Disabled*, the system will wait one state before data is written to the PCI bus.

<u>PCI Master 0 WS Read:</u>

Two options are available: Enabled or Disabled. The default setting is *Enabled*. When *Enabled,* reads to the PCI bus are executed with zero wait state (immediately) when PCI bus is ready to receive data. If it is set to *Disabled*, the system will wait one state before data is written to the PCI bus.

<u>CPU to PCI Post Write</u>

Two options are available: Enabled or Disabled. The default is *Enabled*, When *Enable*, data transmission from CPU to PCI bus are buffered and compensate for the different speed between CPU and PCI bus. If it is set to *Disabled*, data transmissions are not buffered and CPU must wait until the data transmission is complete and then start another transmission cycle.

<u>Vlink 8X Support:</u>

Two options are available: Disabled or Enabled. The default setting is *Enabled*. This item can let you enable the Vlink bus data transfer between northbridge and southbridge.

PCI Delay Transaction:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.2.

Back to Advanced Chipset Features Setup Menu Here:

System BIOS Cacheable:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When you select *Enabled*, you get faster system BIOS executing speed via the L2 cache.

Video RAM Cacheable:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When you select *Enable*, you get faster video RAM executing speed via the L2 cache. You must check your VGA adapter manual to find out if any compatibility problems will occur.

4-5. Integrated Peripherals

In this menu, you can change the onboard I/O device, I/O port address and other hardware settings.

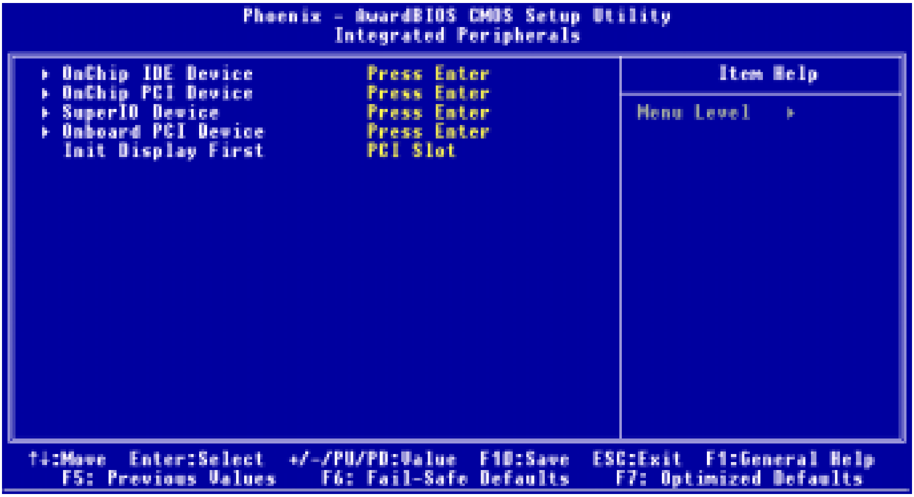


Figure 4-6A. Integrated Peripherals Menu Default Screen

OnChip IDE Device:

This item can let you sets several items concerning the OnChip IDE device parameters.

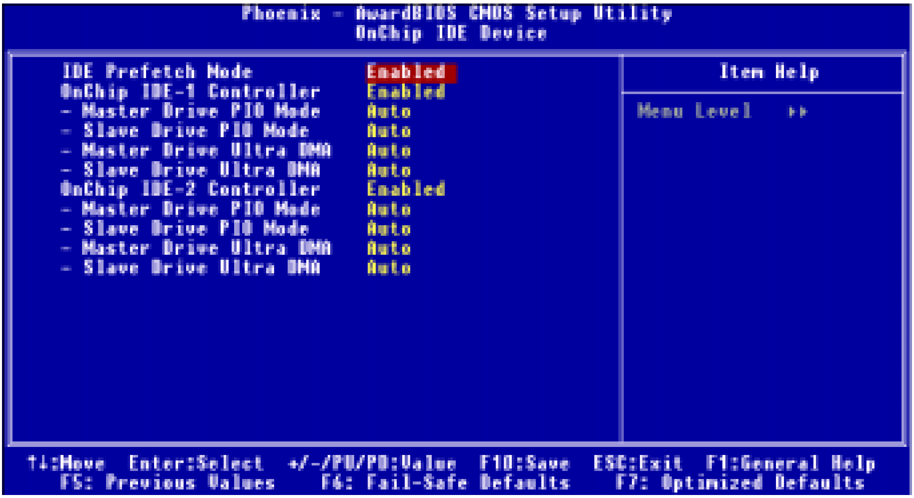


Figure 4-6B. OnChip IDE Device Screen

IDE Prefetch Mode:

Two options are available: Disabled or Enabled. The default setting is *Enabled*. The onboard IDE drive interfaces supports IDE prefetching for faster drive accesses. If you install a primary and/or secondary add-in IDE interface, set this field to *Disabled* if the interface does not support prefetching.

OnChip IDE-1 Controller:

The onboard IDE 1 controller can be set as Disabled or Enabled. The default setting is *Enabled*.

✏ ***Master Drive PIO Mode:***

➢Auto: The BIOS can auto-detect the transfer mode of the IDE devices in order to set its data transfer rate (Default). You can select the PIO mode from 0 to 4 of the IDE devices in order to set its data transfer rate.

✏ ***Slave Drive PIO Mode:***

➢Auto: The BIOS can auto-detect the transfer mode of the IDE devices in order to set its data transfer rate (Default). You can select the PIO mode from 0 to 4 of the IDE devices in order to set its data transfer rate.

✏ ***Master Drive Ultra DMA:***

Ultra DMA is a DMA data transfer protocol that utilizes ATA commands and the ATA bus to allow DMA commands to transfer data at a maximum burst rate of 133 MB/sec.

➢Disabled: If you encounter the problem of using Ultra DMA devices, you can try to set this item to *Disabled*.

➢Auto: When you select Auto, the system automatically determines the optimal data transfer rate for each IDE device. (Default)

✏ ***Slave Drive Ultra DMA:***

➢Disabled: If you encounter the problem of using Ultra DMA devices, you can try to set this item to *Disabled*.

➢Auto: When you select Auto, the system automatically determines the optimal data transfer rate for each IDE device. (Default)

OnChip IDE-2 Controller:

The onboard IDE 2 controller can be set as Enabled or Disabled. Description is the same as the item "**OnChip IDE-1 Controller**". You can refer the above description.

PIO MODE 0 ~ 4 reflects the IDE device data transfer rate. The higher the MODE value is, the better the IDE device data transfer rate. However, it does not mean that the highest MODE value can be selected. You first have to be sure that your IDE device supports this MODE. Otherwise, the hard disk will not be able to operate normally.

Back to Integrated Peripherals Setup Menu Here:

OnChip PCI Device:

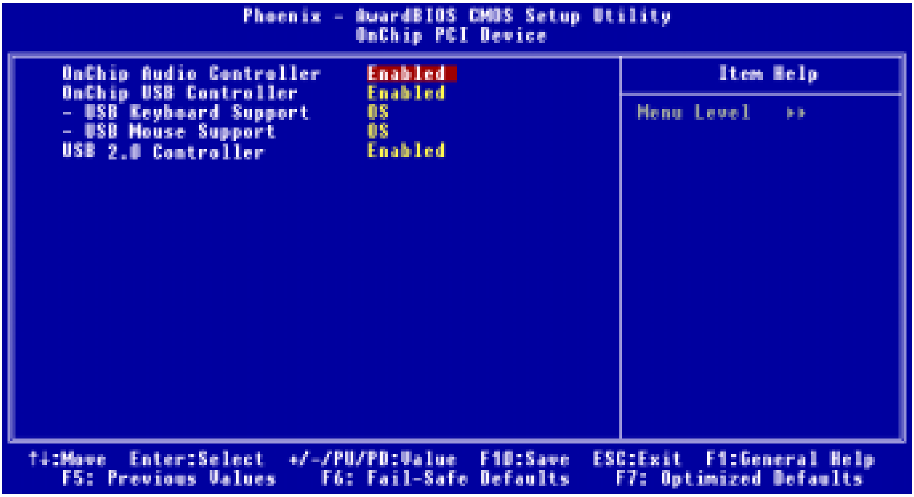


Figure 4-6C. OnChip PCI Device Screen

<u>OnChip Audio Controller:</u>

Two options are available: Enabled or Disabled. The default setting is *Enabled*. Your motherboard has the built-in audio controller. If you set this controller to *Enabled*, you can use onboard audio functions.

<u>OnChip USB Controller:</u>

Two options are available: Disabled or Enabled. The default setting is *Enabled*. This should be enabled if your system has a USB device installed on the motherboard and you wish to use it. If you add a higher performance controller, you will need to disable this feature. If you choose disable this item, the "**USB Keyboard Support**" and "**USB Mouse Support**" items will not able to select in *Integrated Peripherals* menu.

✑ ***USB Keyboard Support:***

Two options are available: OS and BIOS. The default setting is *OS*. If your operating system supports a USB keyboard, please set it to *OS*. Only in some situations, such as in a pure DOS environment that does not support a USB keyboard, should you set it to BIOS.

✑ ***USB Mouse Support:***

Two options are available: OS → BIOS. The default setting is *OS*. If your operating system supports a USB mouse, please set it to *OS*. Only in some situations, such as in a pure DOS environment that does not support a USB mouse, should you set it to BIOS.

<u>USB 2.0 Controller:</u>

Two options are available: Disabled or Enabled. The default setting is *Enabled*. This motherboard has the built-in USB 2.0 chipset that can support USB 2.0 specifications. If you set this controller to *Enabled*, you can use USB 2.0 functions.

Back to Integrated Peripherals Setup Menu Here:

SuperIO Device:

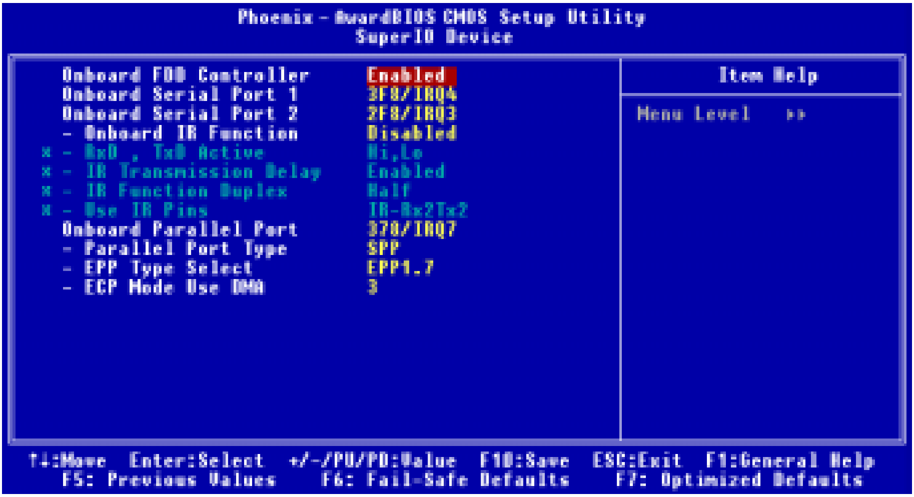


Figure 4-6D. SuperIO Device Screen

<u>Onboard FDD Controller:</u>

Two options are available: Disabled or Enabled. The default setting is *Enabled*. This is used to enable or disable the Onboard FDD Controller. If you add a higher performance controller, you will need to disable this feature.

<u>Onboard Serial Port 1:</u>

This item allows you to determine which I/O address the onboard serial port 1 controller will access. Six options are available: Disabled → 3F8/IRQ4 → 2F8/IRQ3 → 3E8/IRQ4 → 2E8/IRQ3 → Auto → Back to Disabled. The default setting is *3F8/IRQ4*.

<u>Onboard Serial Port 2:</u>

This item allows you to determine which I/O address the onboard serial port 2 controller will access. Six options are available: Disabled → 3F8/IRQ4 → 2F8/IRQ3 → 3E8/IRQ4 → 2E8/IRQ3 → Auto →Back to Disabled. The default setting is *2F8/IRQ3*.

If you choose *Disabled*, then the item "**Onboard IR Function**" will disappear.

✑ ***Onboard IR Function:***

Three options are available: IrDA → ASKIR (Amplitude Shift Keyed IR) → Disabled. The default setting is *Disabled*.

When you select the item IrDA or ASKIR, then the following two items will appear.

✎ ***RxD , TxD Active:***

Four options are available: Hi, Hi ➔ Hi, Lo ➔ Lo, Hi ➔ Lo, Lo. The default setting is *Hi, Lo*. Set IR transmission/reception polarity as High or Low.

✎ ***IR Transmission Delay:***

Two options are available: Disabled and Enabled. The default setting is *Enabled*. Set IR transmission delays 4 character-time (40 bit-time) when SIR is changed from RX mode to TX mode.

✎ ***IR Function Duplex:***

Two options are available: Full or Half. The default setting is *Half*.
Select the value required by the IR device connected to the IR port. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in only one direction at a time.

✎ ***Use IR Pins:***

Two options are available: RxD2, TxD2 and IR-Header. The default setting is *IR-Header*. If you choose *RxD2, TxD2*, your motherboard must support a COM port IR KIT connection. Otherwise, you can only choose the *IR-Header* to use the IR header on your motherboard to connect your IR KIT. Please use the default setting.

Note
The setting for item "**RxD, TxD Active**", also called "**TX, RX inverting**", allows you to determine the activity of RxD and TxD. We set it to "**Hi, Lo**". If your motherboard BIOS uses "**No**" and "**Yes**" to represent this item, you should set it to the same setting as the KD7-B/KD7-S/KD7-G. This means that you should set it to "**No, Yes**" in order to match the transfer and receiving speed. If you fail to do so, you will not get an IR connection between the KD7-B/KD7-S/KD7-G and the other computer.

Onboard Parallel Port:

Four options are available: Disabled ➔ 378/IRQ7 ➔ 278/IRQ5 ➔ 3BC/IRQ7. The default setting is *378/IRQ7.* Select a logical LPT port name and matching address for the physical parallel (printer) port.

✎ ***Parallel Port Type:***

Four options are available: SPP ➔ EPP ➔ ECP ➔ ECP+EPP. Default is *ECP+EPP* mode. Select an operating mode for the onboard parallel (printer) port. SPP (Standard Parallel Port), EPP (Extended Parallel Port), ECP (Extended Capabilities Port) or ECP plus EPP.

Select SPP unless you are certain your hardware and software supports both EPP or ECP mode. According to your selection, the following items will appear.

✎ ***EPP Type Select:***

Two options are available: EPP1.9 ➔ EPP1.7. The default setting is *EPP1.7*. When the mode selected for the parallel port mode is EPP, the two EPP mode options are available.

✎ ***ECP Mode Use DMA:***

Two options are available: 1 ➔ 3. The default setting is *3.* When the mode selected for the onboard parallel port is ECP or ECP+EPP, the DMA channel selected can be 1 (Channel 1) or 3 (Channel 3).

Back to Integrated Peripherals Setup Menu Here:

Onboard PCI Device:

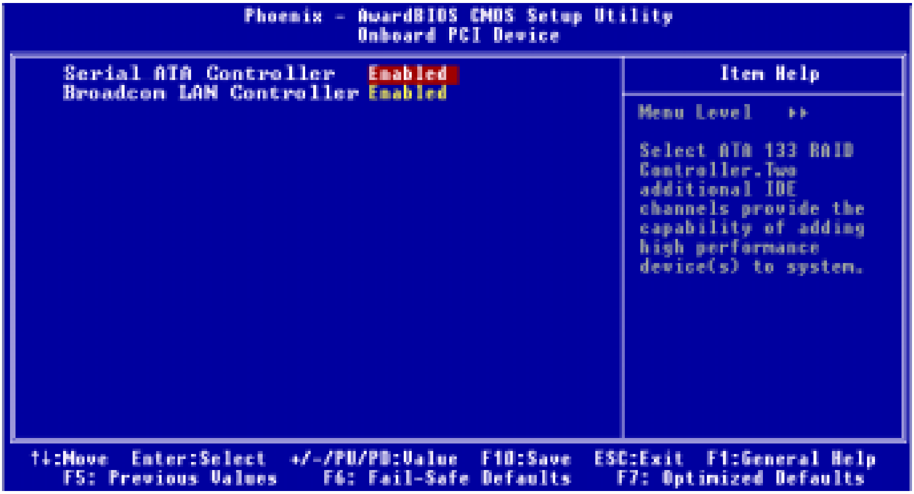


Figure 4-6E Onboard PCI Device Screen

<u>Serial ATA Controller:</u>
Two options are available: Disabled or Enabled. The default setting is *Enabled*. This motherboard has the built-in Silicon Image SIL3112A Controller that can support Serial ATA 150 specifications. If you set this controller to *Enabled*, you can use Serial IDE RAID functions, inlcuding RAID 0 and RAID 1. This feature enables you to maximize your data storage performance and security. For detailed information, please refer to the Chapter 5.

<u>Broadcom LAN Controller:</u>

Two options are available: Enabled or Disabled. The default setting is *Enabled*. Your motherboard has the built-in LAN chipset that can support LAN functions. If you set this controller to *Enabled*, you can use LAN functions.

Back to Integrated Peripherals Setup Menu Here:

<u>Init Display First:</u>

Two options are available: PCI Slot or AGP. The default setting is *PCI Slot.* When you install more than one display card, you can choose either a PCI display card (PCI Slot) or an AGP display card (AGP) to display the boot-up screen. If you have only installed one display card, the BIOS will detect which slot (AGP or PCI) you installed it, and everything will be taken care of by the BIOS.

4-6. Power Management Setup Menu

When the computer operates normally, it is in Normal mode. In this mode, the Power Management Program will monitoring the access to video, I/O ports and drives, and the operating status of the keyboard, mouse and other device. These are referred to as Power Management Events. In cases where none of these events occur within setting time, the system enters the power saving mode. When one of the controlled events occurs, the system immediately returns to normal mode and operates at its maximum speed.

1. In the Main Menu, select "**Power Management Setup**" and press <**Enter**>. The following screen is displayed:

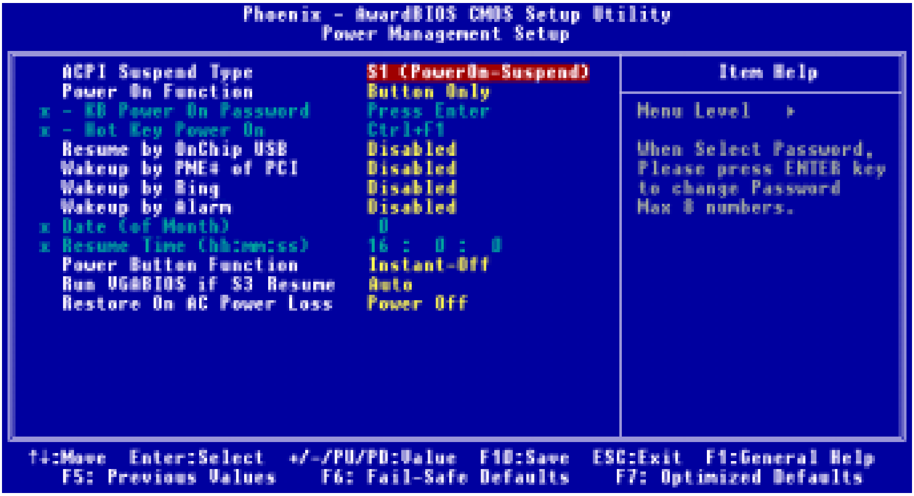


Figure 4-7. Power Management Setup Main Menu

2. You can use the arrow keys to move between the items. Use **PgUP**, **PgDn**, **+** or **-** key to change the values. When you have finished setting up the chipset, press <**Esc**> to go back to the main menu.

3. After you have configured the Power Management feature, press <**Esc**> to go back to the Main Menu.

We are now going to briefly explain the options in this menu:

ACPI Function (Advanced Configuration and Power Interface):

ACPI gives the operating system direct control over the power management and Plug and Play functions of a computer. The BIOS is fully support the ACPI functions. If you want ACPI functions to work normally, you should notice two things. One is your operating system must support ACPI, as of now only Microsoft® Windows® 2000, Windows® ME and Windows® XP supports these functions. The second thing is that all devices and add-on cards in your system must fully support ACPI, both hardware and software (drivers). If you want to know if your devices or add-on cards support ACPI or not, please contact the device or add-on card manufacture for more information. If you want to know more about ACPI specifications, please go to the address below for more detailed information: http://www.acpi.info/

ACPI requires an ACPI-aware operating system. ACPI features include:

- Plug and Play (including bus and device enumeration) and APM functionality normally contained in the BIOS.
- Power management control of individual devices, add-in cards (some add-in cards may require an ACPI-aware driver), video displays, and hard disk drives.
- A Soft-off feature that enables the operating system to power off the computer.
- Support for multiple wake-up events (see Table 4-6-1).
- Support for a front panel power and sleep mode switch. Table 4-6-2 describes the system states based on how long the power switch is pressed, depending on how ACPI is configured with an ACPI-aware operating system.

System States and Power States

Under ACPI, the operating system directs all system and device power state transitions. The operating system puts devices in and out of low-power states based on user preferences and knowledge of how devices are being used by applications. Devices that are not being used can be turned off. The operating system uses information from applications and user settings to put the system as a whole into a low-power state.

The table below describes which devices or specific events can wake the computer from specific states.

Table 4-6-1: Wake Up Device and Events

These device/events can wake up the computer	from this state
Power switch	Sleeping mode or power off mode
RTC alarm	Sleeping mode or power off mode
PCI Card (PME)	Sleeping mode or power off mode
Modem	Sleeping mode or power off mode
USB	Sleeping mode

Table 4-6-2: Effect of Pressing the Power Switch

If the system is in this state……	……and the power switch is pressed for	……the system enters this state
Off	Less than four seconds	Power on
On	More than four seconds	Fail safe power off
On	Less than four seconds	Soft off/Suspend
Sleep	Less than four seconds	Wake up

ACPI Suspend Type:

Three options are available: S1 (PowerOn-Suspend) ➔ S3 (Suspend-To-RAM) ➔ Auto. The default setting is *S1 (PowerOn-Suspend)*. POS is "**P**ower **O**n **S**uspend", and STR is "**S**uspend **T**o **R**AM". Generally, ACPI has six states: System S0 state, S1 state, S2 state, S3 state, S4 state, S5 state. S1 and S3 states are described below:

The S1 (POS) State (POS means Power On Suspend):

While the system is in the S1 sleeping state, its behavior is as described below:

- The processor is not executing instructions. The processor's complex context is maintained.
- Dynamic RAM context is maintained.
- Power Resources are in a state compatible with the system S1 state. All Power Resources that supply a System Level reference of S0 are in the OFF state.

- Devices states are compatible with the current Power Resource states. Only devices which solely reference Power Resources which are in the ON state for a given device state can be in that device state. In all other cases, the device is in the D3 (off) state.
- Devices that are enabled to wake the system and that can do so from their current device state can initiate a hardware event which transitions the system state to S0. This transition causes the processor to continue execution where it left off.

To transition into the S1 state, the operating software does not have to flush the processor's cache.

The S3 (STR) State (STR means Suspend to RAM):

The S3 state is logically lower then the S2 state and is assumed to conserve more power. The behavior of this state is defined as follows:

- Processor is not executing instructions. The processor complex context is not maintained.
- Dynamic RAM context is maintained.
- Power Resources are in a state compatible with the system S3 state. All Power Resources that supply a System Level reference of S0, S1, or S2 are in the OFF state.
- Devices states are compatible with the current Power Resource states. Only devices which solely reference Power Resources which are in the ON state for a given device state can be in that device state. In all other cases, the device is in the D3 (off) state.
- Devices that are enabled to wake the system and that can do so from their current device state can initiate a hardware event which transitions the system state to S0. This transition causes the processor to begin execution at its boot location. The BIOS performs initialization of core functions as required to exit an S3 state and passes control to the firmware resume vector. Please see the ACPI Specification Rev. 1.0 book section 9.3.2 for more details on BIOS initialization.

From the software point of view, this state is functionally the same as the S2 state. The operational difference can be that some Power Resources that could be left ON in the S2 state might not be available to the S3 state. As such, additional devices can be required to be in logically lower D0, D1, D2, or D3 state for S3 than S2. Similarly, some device wake events can function in S2 but not S3.

Because the processor context can be lost while in the S3 state, the transition to the S3 state requires that the operating software flush all dirty cache to DRAM.

✶ ***Above information for system S1 were refer to ACPI Specification Rev. 1.0.***

<u>Power On Function:</u>

Four options are available: Hot Key ➔ Password ➔ Mouse ➔ Button Only. The default setting is *Button Only*. This iten allow you to choose the computer power turn on method you like. Some item you choose, some of the following items will be available to let you making further setting. For instance, when you set this item to *Password*, the item of "**KB Power On Password**" will allow you to enter password. When you set this item to *Hot Key*, the item of "**Hot Key Power On**" will allow you to choose the hot key you want. If you choose *Mouse*, you can press any key on mouse to turn on the computer power.

✑ ***KB Power On Password:***

When you perss the <**Enter**> key, then you can enter the password you want. When set be done, you need to saving and leave the BIOS setting menu to reboot your computer system. **Next time when you shutdown your computer, you can't use the power button to turn on the computer power anymore.** You need to press the password to turn on your computer power.

✑ ***Hot Key Power On:***

Fifteen options are available: Ctrl+F1 ~ Ctrl+F12, Power, Wake and Any Key. The default setting is *Ctrl+F1*. You can choose the hot key that you want it to turn on your computer power.

Resume by OnChip USB:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When set to *Enabled*, any event affecting from onchip USB will awaken a system that has powered down.

Wakeup by PME# of PCI:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When set to *Enabled*, any event affecting from PCI card (PME) will awaken a system that has powered down.

Resume by Ring:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When set to *Enabled*, any event affecting from Modem Ring will awaken a system that has powered down.

Wake by Alarm:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. When set to *Enabled*, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

✑ ***Date (of Month) / Resume Time (hh:mm:ss):***

You can set the Date (month) Alarm and Time Alarm (hh:mm:ss). Any event occurring will awaken a system that has powered down.

Power Button Function:

Two options are available: Delay 4 Sec or Instant-Off. The default setting is *Instant-Off*. It is activated when the user presses the power button for more than four seconds while the system is in the working state, then the system will transition to the soft-off (Power off by software). This is called the power button over-ride.

Run VGABIOS if S3 Resume:

Three options are available: Auto ➔ Yes ➔ No. The default setting is *Auto*. This item can let you choose when S3 resume active, the VGA BIOS need to be initiative or not.

Restore On AC Power Loss:

Three options are available: Last State ➔ Power On ➔ Power Off. The default setting is *Power Off*. This setting lets you set the system action after a power failure. This item lets you set the system power state when power recovers. If you set it to *Power Off*, when power returns, whatever state your computer was in before the power failure, the system will always turn off. If you set it to *Power On,* when power returns, whatever state your computer was in before the power failure, the system will always turn on. If you set it to *Last State*, when the power returns, the computer return to the previous power state.

4-7. PnP/PCI Configurations Setup Menu

In this menu, you can change the INT# and IRQ# of the PCI bus and other hardware settings.

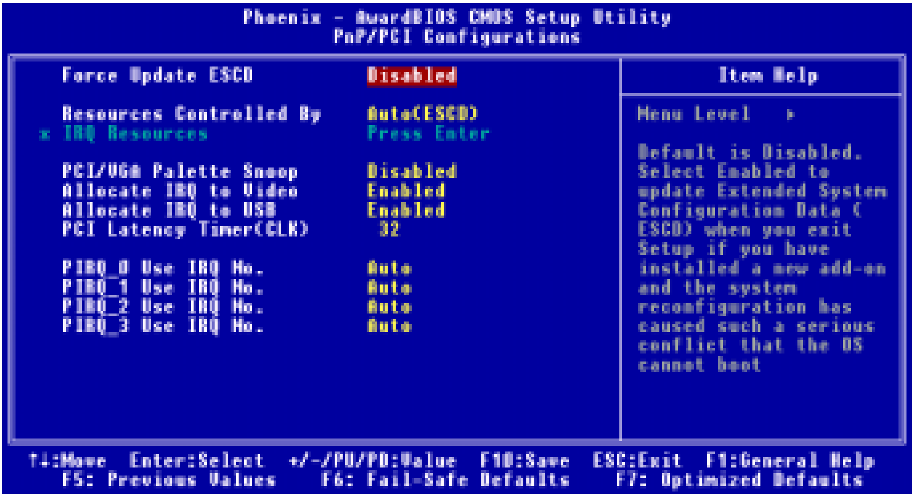


Figure 3-8A. PnP/PCI Configurations Setup Menu

<u>Force Update ESCD:</u>

Two options are available: Disabled or Enabled. The default setting is *Disabled*. Normally, you should leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused a serious conflict that prevents the operating system from booting.

Computer Knowledge: ESCD (Extended System Configuration Data)
The ESCD contains the IRQ, DMA, I/O port, memory information of the system. This is a specification and a feature specific to the Plug & Play BIOS.

<u>Resources Controlled By:</u>

When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt:

Legacy devices compliant with the original PC AT bus specification require a specific interrupt. PCI PnP devices comply with the Plug and Play standard, whether designed for the PCI or legacy bus architecture.

Two options are available: Auto (ESCD) or Manual. The default setting is *Auto (ESCD)*. The Award Plug and Play BIOS has the capability to automatically configure all boot and Plug and Play compatible devices. If you select Auto (ESCD), all of the interrupt request (IRQ) fields become unselectable, as the BIOS automatically assigns them.

✏ ***IRQ Resources:***

If you have trouble in assigning the interrupt resources automatically, you can select *Manual* to set which IRQis assigned to which *PCI Device* or *Reserved* it. See the screen shot below.IRQ Resources:

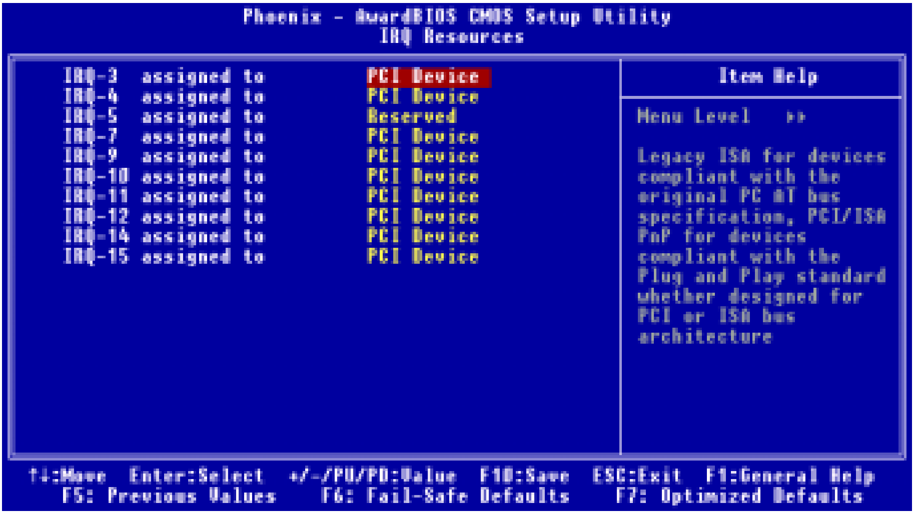


Figure 4-8B. IRQ Resources Setup Menu

Back to PnP/PCI Configurations Setup Menu Here:

PCI /VGA Palette Snoop:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. This option allows the BIOS to preview VGA Status, and to modify the information delivered from the Feature Connector of the VGA card to the MPEG Card. This option can set the display inversion to black after you have used the MPEG card.

Allocate IRQ to Video:

Two options are available: Disabled or Enabled. The default setting is *Enabled*. Name the interrupt request (IRQ) line assigned to the VGA on your system. Activity of the selected IRQ always awakens the system.

You can assign an IRQ for the either PCI or AGP VGA or *Disabled*.

Allocate IRQ to USB:

Two options are available: Disabled or Enabled. The default setting is *Enabled*. If you need free up another IRQ, you can choose to disable this item to an IRQ. However, some situations in Windows® 95 may cause the USB port to malfunction or experience other problems!

PCI Latency Timer(CLK):

The options are: 32, 64, 96, 128, 160, 192, 224, and 248. The default setting is *32*. This option selects the controls for the amount of time that the VIA 8235 arbiter allows a PCI initiator to perform multiple back-to-back transactions on the PCI bus.

PIRQ_0 Use IRQ No. ~ PIRQ_3 Use IRQ No.:

Eleven options are available: Auto, 3, 4, 5, 7, 9, 10, 11, 12, 14, 15. Default setting is *Auto.* This item allows the system to automatically specify the IRQ number for the device installed on PCI slots. This means that the system can specify the fixed IRQ number for the device installed on the PCI slots (or onboard PCI devices). This is a useful function for when you want to fix the IRQ for a specific device.

For example, if you want to move your hard disk to another computer and don't want to re-install Windows® NT or Windows® 2000, you can simply specify the IRQ for the device installed on the new computer to fit the original computer settings.

This feature is for the operating system that will record and fix the PCI configuration status if you want to change it.

For the relations between the hardware layout of PIRQ (the signals from the VIA VT8235 chipset), INT# (means PCI slot IRQ signals) and devices, please refer to the table below:

SIGNALS	PCI Slot 1	PCI Slot 2	PCI Slot 3	PCI Slot 4	PCI Slot 5	PCI Slot 6	AGP	SiI3112A	Broadcom 5702/4401
PIRQ_0 Assignment	INT A	INT D	INT B	INT B	INT C	INT D	INT A	INT C	INT B
PIRQ_1 Assignment	INT B	INT A	INT A	INT C	INT D	INT B	INT B	X	X
PIRQ_2 Assignment	INT C	INT C	INT D	INT D	INT A	INT C	X	X	X
PIRQ_3 Assignment	INT D	INT B	INT C	INT A	INT B	INT A	X	X	X

Note

- PCI slot 1 shares IRQ signals with the AGP slot.
- PCI slot 2, PCI slot 3 and Broadcom 5702/4401 shares IRQ signals.
- PCI slot 4 shares IRQ signals with the PCI slot 6.
- PCI slot 5 shares IRQ signals with the SiI3112A.
- If you want to install two PCI cards into those PCI slots that share IRQ with one another at the same time, you must make sure that your OS and PCI devices' driver supports the IRQ sharing function.

4-8. PC Health Status

You can set the warning and shutdown temperatures for your computer system, and you can check the fan speeds and power supply voltages of your computer system. The features are useful for monitoring all the important parameters within your computer system. We call it the *PC Health Status*.

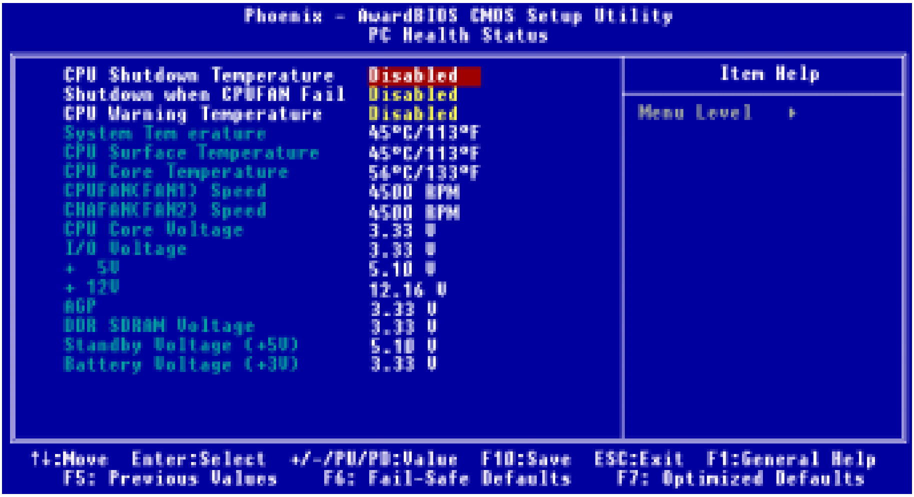


Figure 4-9. PC Health Status Screen Shot

CPU Shutdown Temperature:

Five options are available: Disabled ➔ 60℃/140°F ➔ 65℃/149°F ➔ 70℃/158°F ➔ 75℃/167°F. The default setting is *Disabled*. You can set the processorshutdown temperature here. If the processor temperature exceeds the settings value, system will force to shutdown to protect the processor not overheat.

Shutdown when CPUFAN Fail:

Two options are available: Disabled or Enabled. The default setting is *Disabled*. If you set it to *Enabled*, if CPUFAN out of order, system will force to shutdown to protect the processor not overheat.

CPU Warning Temperature:

Eight options are available: Disabled ➔ 50℃/122°F ➔ 53℃/127°F ➔ 56℃/133°F ➔ 60℃/140°F ➔ 63℃/145°F ➔ 66℃/151°F ➔ 70℃/158°F. The default setting is *Disabled*. You can set the processor warning temperature here. If the processor temperature exceeds the settings value, the system will give you an alarm message or sound to remind you that the processor is overheating.

All Voltages, Fans Speed and Thermal Monitoring:

These items list the current states of the CPU and environment temperatures as well as fan speeds (CPU fan and chassis fan). It cann't be changed by the user. The following items list the voltage states of the system power. It is also unchangeable.

Note
The hardware monitoring features for temperatures, fans and voltages will occupy the I/O address from 294H to 297H. If you have a network adapter, sound card or other add-on cards that might use those I/O addresses, please adjust your add-on card I/O address, to avoid the use of those addresses.

4-9. Load Fail-Safe Defaults

When you press **<Enter>** on this item you get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N)? N

Pressing "**Y**" loads the BIOS default values for the most stable, minimal-performance system operations.

4-10. Load Optimized Defaults

When you press **<Enter>** on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)? N

Pressing "**Y**" loads the default values that are factory settings for optimal performance system operations.

4-11. Set Password

Set Password: Can enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press **<Enter>**. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press **<Enter>**. You may also press **<Esc>** to abort the selection and not enter a password.
To disable a password, just press **<Enter>** when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration. Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer. You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to *System*, the password will be required both at boot and at entry to Setup. If set to *Setup*, prompting only occurs when trying to enter Setup.

4-12. Save & Exit Setup

Pressing **<Enter>** on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

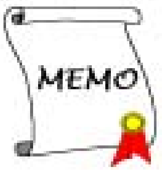
Pressing "**Y**" stores the selections made in the menus in CMOS - a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

4-13. Exit Without Saving

Pressing **<Enter>** on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.


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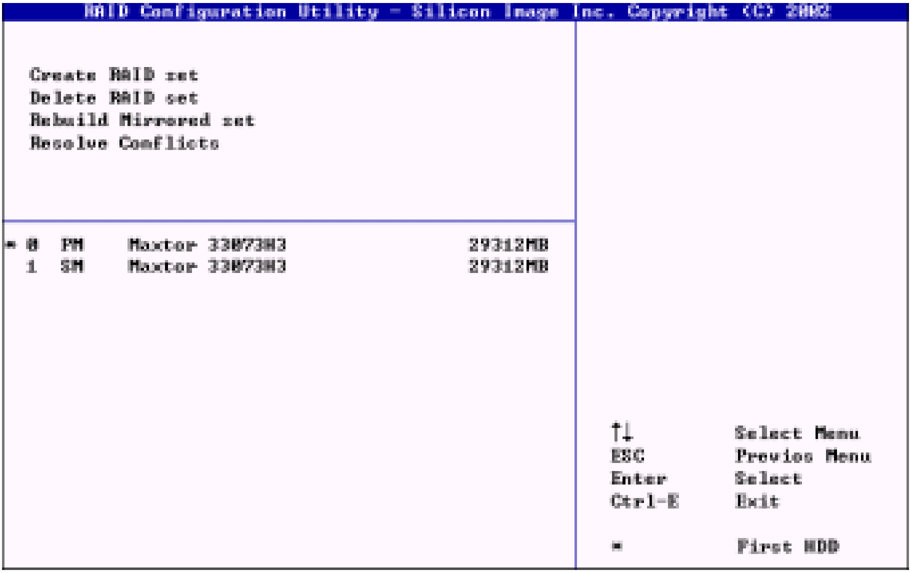
Chapter 5. Serial ATA RAID Setting Guide For KD7-S/KD7-G

For detail RAID introduce and concept, you can found it on our WEB site "**Technological Terms**", or you can search the concerning information on Internet. We do not description it on this manual.

5-1. The features of Serial ATA RAID on the KD7-S/KD7-G

The KD7-S/KD7-G supports Striped (RAID 0) and Mirrored (RAID 1) RAID set. For the striped RAID set, the identical drives can read and write data in parallel to increase performance. The Mirrored RAID set creates a complete backup of your files. Striped and Mirrored RAID set requires 2 hard disks to do so.

5-2. The RAID Configuration Utility Menu



Reboot your system. Press <*CTRL*> + <**S**> or <**F4**>key while booting up the system to enter the BIOS setting menu. The main menu of BIOS Setting Utility appears as below:
For selecting the option in the menu, you may:

- Press ↑ ↓ (up, down arrow) to choose the option you want to confirm or to modify.
- Press **Enter** to confirm the selection.
- Press **Esc** to return to previos menu.
- Press **Ctrl-E** to exit RAID configuration utility

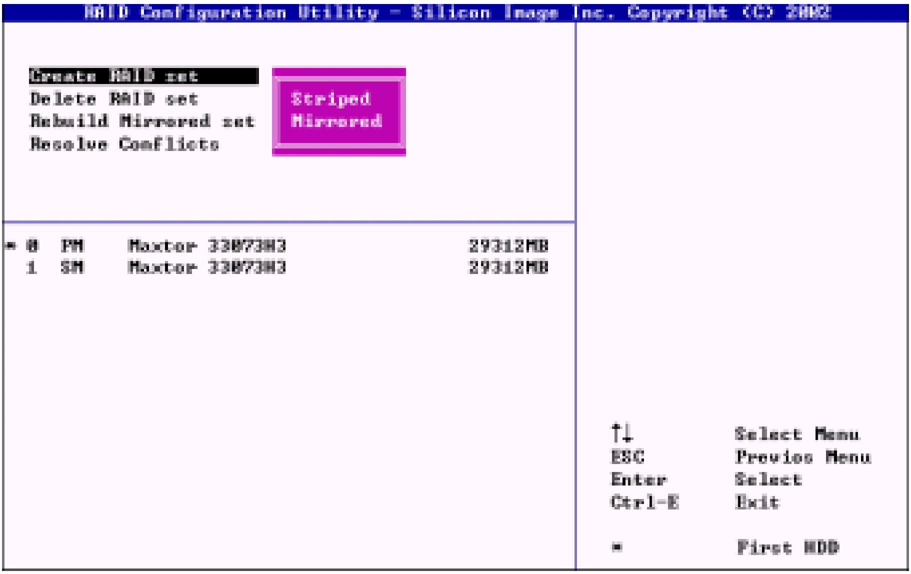
NOTE

If you want to create a RAID 0 (striping) array, all data in your hard disk will first be erased! Please backup the hard disk data before creating a RAID array. If you want to create a RAID 1 (mirroring) array, please be sure which hard disk is the source disk and which one is the destination disk. If you make a mistake, you may copy the blank data to the source disk, which will result in both hard disks becoming blank!

5-2-1. OPTION 1: Create Array

This item allows you to create a RAID array.

After you had selected the function from the main menu, press the <**Enter**> key to enter the sub menu as shown below:



<u>Array Mode:</u>

This item allows you to select the appropriate RAID mode for the desired array. There are two modes to choose. When you choose a “Striped” or “Mirrored” RAID set, the utility will ask “ Are You Sure?” before the Creating RAID process. Press “Y” to confirm.

Note

It is highly recommended to attach hard disks with the same brand and same model when defining a RAID array.

✐ ***Striped (RAID 0) :***

This item is recommended for high performance usage. Requires at least 2 disks.

✑ ***Mirrored (RAID 1) :***

This item is recommended for data security usage. Requires at least 2 disks.

5-2-2. OPTION 2: Delete Array

This item allows you to remove a RAID Array on this onboard Serial ATA RAID controller.
Note: After you have made and confirmed this selection, all the data stored in the hard disk will be lost. (The entire partition configuration will be deleted too.)

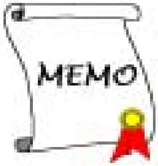
5-2-3. OPTION 3: Rebuild Mirrored set

This item allow you to rebuild only “Mirrored” RAID set. When you decide to rebuild mirrored RAID set, you need to check which hard disk is the source disk and which one is the destination disk before doing so.

5-2-4. OPTION 4: Resolve Conflicts

When a RAID is created, the metadata and drive connection information will be written to the disk. If a disk failure, the replacement disk was a previously part of the RAID set and may contain conflicting data especially in the drive connection information. In this case, this will prohibit the RAID set from being either created or rebuilt. In order to ensure RAID set working properly, the old metadata have to be overwritten with the new data. To resolve this, choose “Resolve Conflict” to write the correct correct metadata and the correct drive connection information to the replacement disk.

Tips
We suggestion you to set the RAID function use “**RAID Management Software**” provide on the product CD-ROM, it will give you more convenience and more help information to show you how to create the RAID system. The detailed of software operation, you can refer the software “**Help**” menu.


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Appendix A. VIA 4 in 1 Drivers Installation for Windows® 2000

After you've installed Windows® 2000, you will need to install the VIA 4 in 1 drivers. Step by step instructions on how to do this are found in the following section.

Note
After installing Windows® 2000, the quality of your display will be poor because it will be set to 640*480 and 16 colors. For the best screen capture quality, install the VGA drivers and set the desktop to 800*600 using True Color.

Note
Under Windows® 2000 operating system you have to install the service pack 2 (SP2) or latest service pack to get the best system performance. You can download SP2 at Microsoft® WEB site.

Note
Details of the or Windows® 2000 operating system will not be mentioned in this manual. If you have any problems with Windows® 2000 installation, operations, or settings, please refer to your Windows® 2000 user's manual or other databases provided by Microsoft® Corporation.

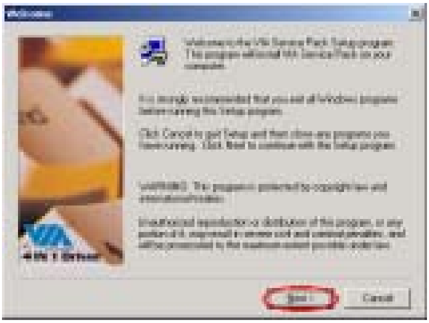
Insert the KT series CD into your CD-ROM drive, it should execute the program automatically. If not, you can go to the CD location and execute the execution file at the main directory of the CD. After it has been executed you will see the screen below.



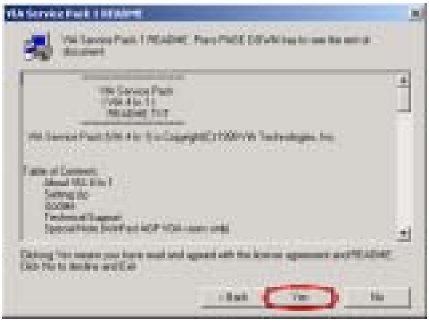
Step 1: Move the cursor to "**Drivers"** and click on it. Then click on "**VIA 4in1 Driver**", You will go to the next screen.



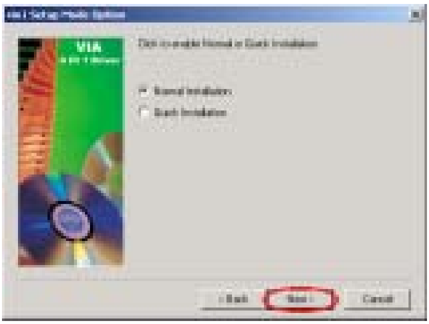
Step 2: The "**InstallShield Wizard**" shows up, and it will go to the next screen for a while.



Step 3: You will now see the welcome screen and its dialogue box. Click "**N̲ext>**" to go on.

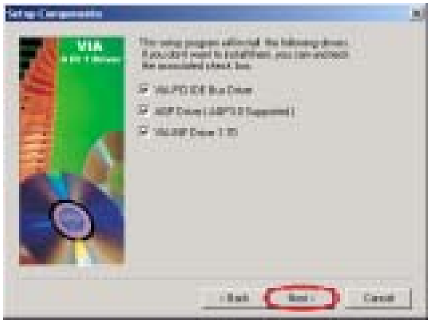


Step 4: The service pack readme screen will appear. Click the "**Y̲es**" button to go on.

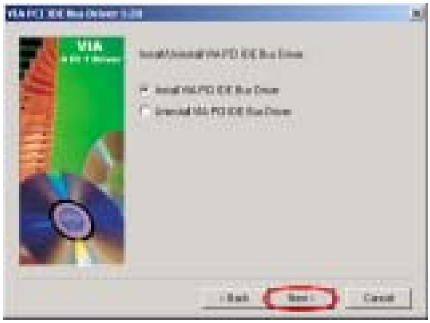


Step 5: You can choose "**Normally Install**" or "**Quickly Install**" to install the VIA 4-in-1 drivers. If you choose "**Quickly Install**" mode, this driver will automatically detect and install the latest 4-in-1 drivers.

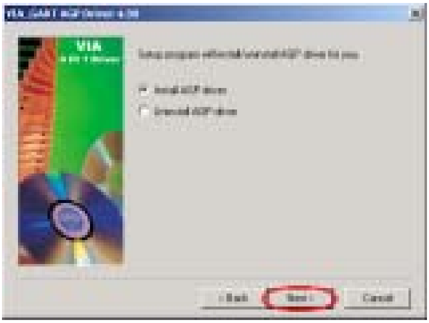
For users who are upgrading VIA Drivers, we recommend installing the 4-in-1 using the "**Quickly Install**" mode, as it will automatically detect and update the necessary drivers. The following step we will describe the "**Normally Install**" mode procedure.



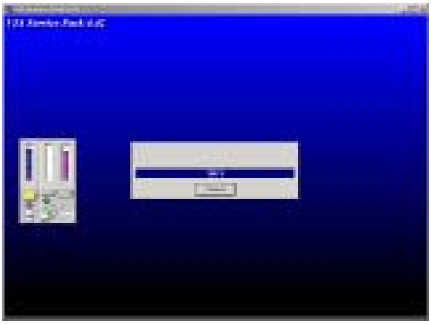
Step 6: This setup program will install three kinds of drivers. Please check which drivers you want to install. When you choose the items, please click the "**N̲ext>**" button to continue.



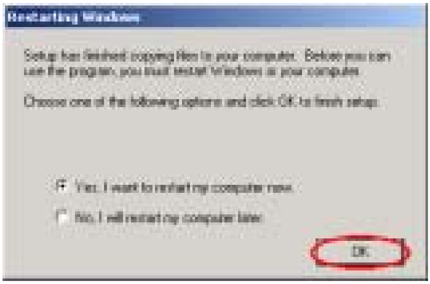
Step 7: Choose the "**Install VIA PCI IDE Bus Driver**" then click the "**N̲ext>**" button to go on.



Step 8: Choose "**Install AGP Driver**", then click the "**Next>**" button.

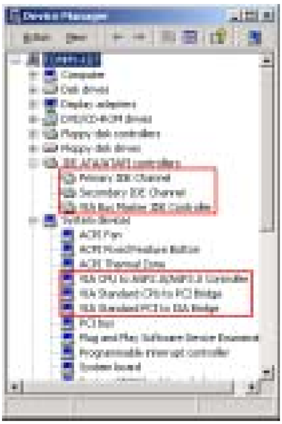


Step 9: The installer will show the install progress percentage.

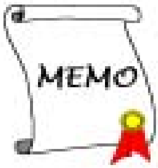


Step 10: When the installation is complete, the installer will ask you to restart your computer. We suggest that you choose "**Yes, I want to restart my computer now.**" Then click the "**OK**" button to restart your computer to finish the driver update.

Step 11: Now, you can check the "**Device Manager**" to see that the devices are properly installed.






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Appendix B. Audio Drivers Installation for Windows® 2000

After you've installed VIA 4 in 1 driver, you will need to install the audio drivers. Step by step instructions on how to do this are found in the following section.

Note
Details of the Windows® 2000 operating system will not be mentioned in this manual. If you have any problems with Windows® 2000 installation, operations, or settings, please refer to your Windows® 2000 user's manual or other databases provided by Microsoft® Corporation.

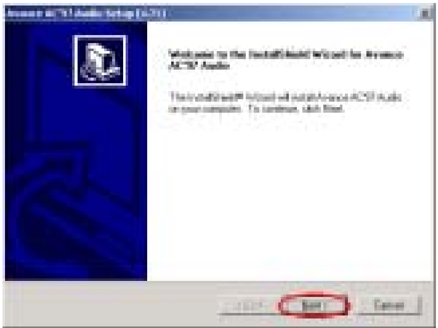
Insert the KT series CD into your CD-ROM drive, and it should execute the program automatically. If not, you can go to the CD location and execute the execution file at the main directory of the CD. After it has been executed you will see the screen below.



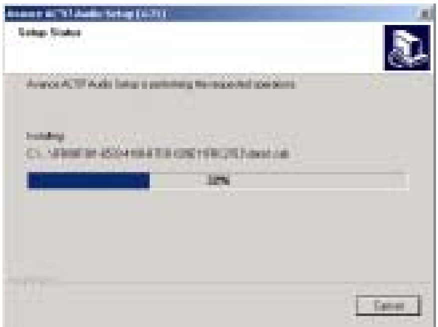
Step 1: Move the cursor to "**RealTek ALC650 Audio Driver**" and click on it. You will go to the next screen.



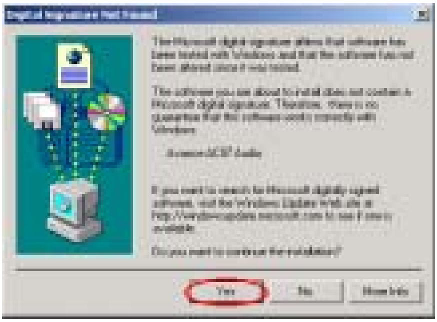
Step 2: The Avance AC97 Audio setup InstallShield® wizard shows up, and it will go to the next screen for a while.



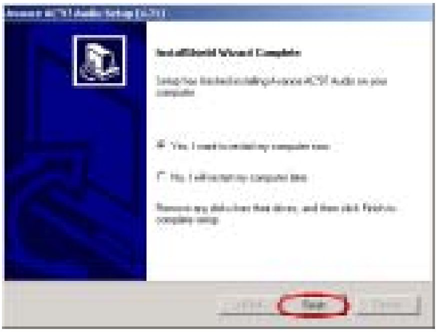
Step 3: You will now see the welcome screen and its dialogue box. Click "**Next>**" to go on.



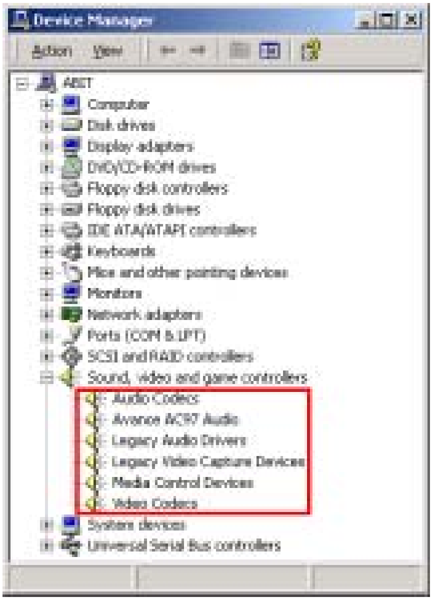
Step 4: The installer will show the install status.



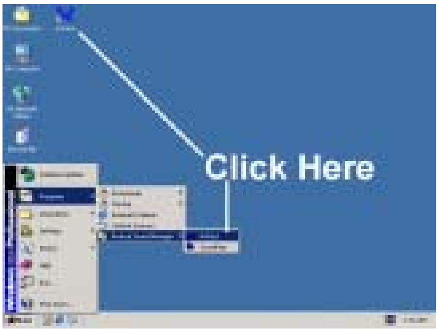
Step 5: The "**Digital Signature Not Found**" screen shows up; click "**Yes**" to go on.



Step 6: When the installation is complete, the installer will ask you to restart your computer. We suggest that you choose "**Yes, I want to restart my computer now.**" then click the "**Finish**" button to restart your computer to finish the driver updates.



Step 7: When system restarts and enters the operating system, you can then check the "**Device Manager**" to see that the devices are properly installed.



Step 8: You can choose from "**Start**", "**Programs**" then from item "**Avance Sound Manager**" ➔ "**AvRack**" to starting the applications program. You can quickly start the mixer panel by double click on the AvRack icon  on the desktop.



: Volume control

: Key up and key down control

: Voice cancellation control

: Toggle environment effect

: Toggle recorder window

: Toggle playlist window

: Toggle equalizer window

: Control panel

: Close rtlrack promgram

: Minize rtlrack window

: Toggle repeat mode

: Change skin

: Mute

: Open media file

Recorder window:



: Stop recording

: Playback recorded data

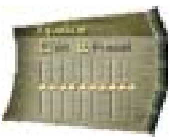
: Record

: Select input source

Save recorded data to file

: Create file for recording

Equalizer window:



The equalizer window can let you set specific frequency db value.

Playlist window:



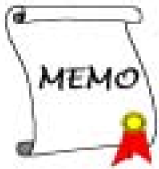
: Add file to playlist

: Remove file from playlist

: Clear playlist

: Load playlist file

: Save playlist file


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Appendix C. Broadcom 440X 10/100 Mb LAN Driver Installation for Windows® 2000

After you've installed VIA 4 in 1 driver, you will need to install the LAN drivers. Step by step instructions on how to do this are found in the following section.

Note
Details of the Windows® 2000 operating system will not be mentioned in this manual. If you have any problems with Windows® 2000 installation, operations, or settings, please refer to your Windows® 2000 user's manual or other databases provided by Microsoft® Corporation.

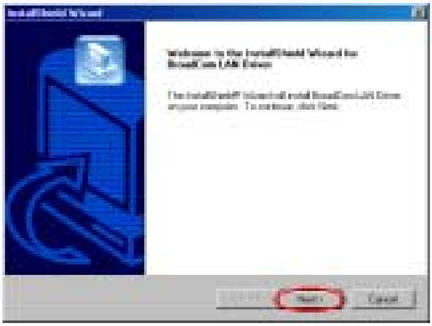
Insert the KT series CD into your CD-ROM drive, and it should execute the program automatically. If not, you can go to the CD location and execute the execution file at the main directory of the CD. After it has been executed you will see the screen below.



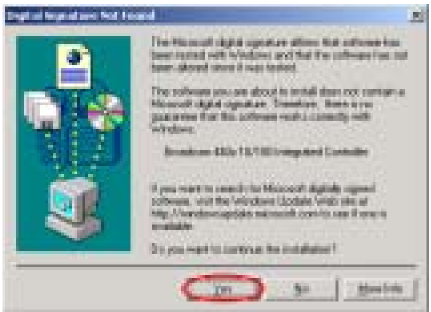
Step 1: Move the cursor to "**Broadcom LAN Driver**" and click on it. You will go to the next screen.



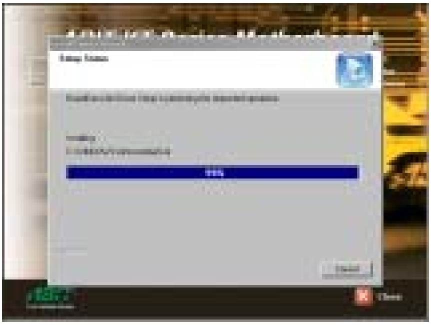
Step 2: The "**InstallShield Wizard**" shows up, and it will go to the next screen for a while.



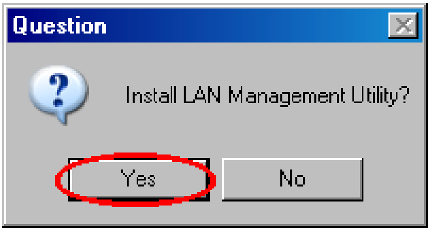
Step 3: You will now see the welcome screen and its dialogue box. Click "**<u>N</u>ext>**" to go on.



Step 4: The "**Digital Signature Not Found**" screen shows up; click "**Yes**" to go on.

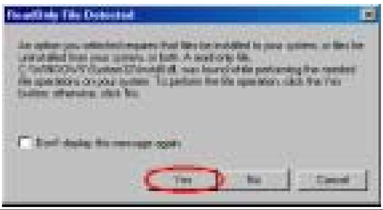


Step 5: The installer will show the install status.



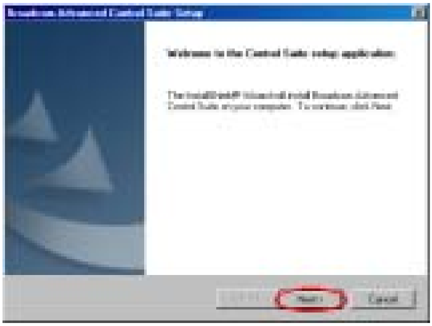
Step 6: The "**Question**" screen will appear. Click the "**YES**" button to install **"LAN Management Utility"**.

NOTE
In installation process, you may see dialog screen as figure below. If so, please click **"Yes"** to Continue installation.

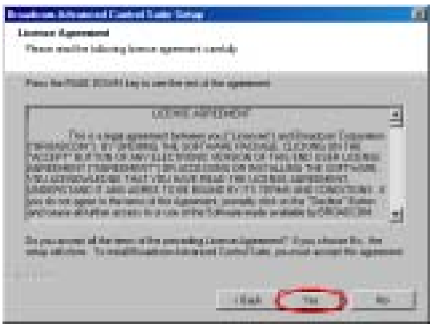




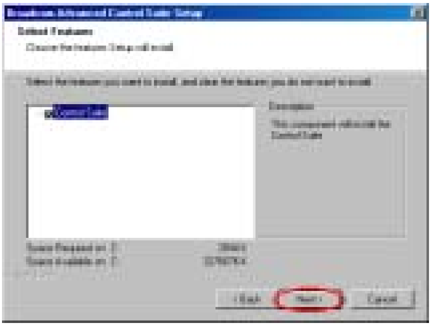
Step 7: The "**InstallShield Wizard**" shows up, and it will go to the next screen for a while.



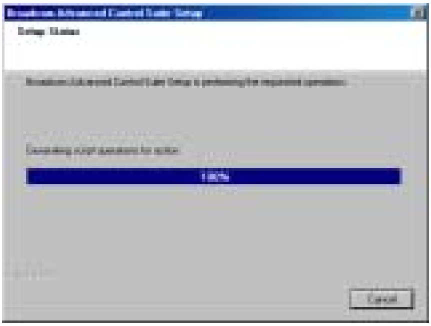
Step 8: You will now see the welcome screen and its dialogue box. Click "**Next>**" to go on.



Step 9: The "**Software License Agreement**" screen will appear. Click the "**Yes**" button to go on.



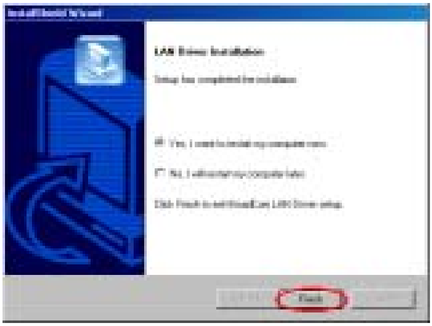
Step 10: Be sure the **"Control Suite"** option is selected, and click "**Next>**" to go on.



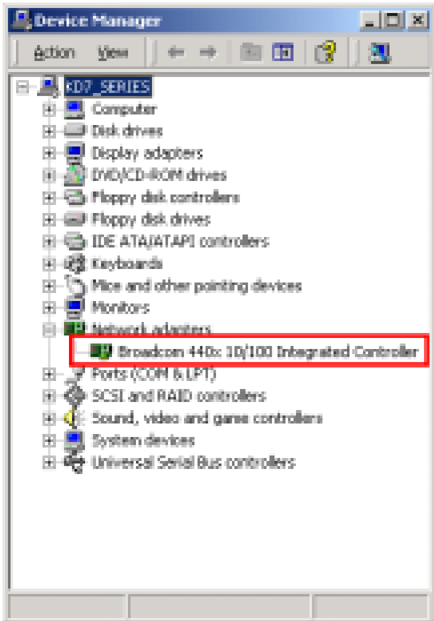
Step 11: The installer will show the install status.



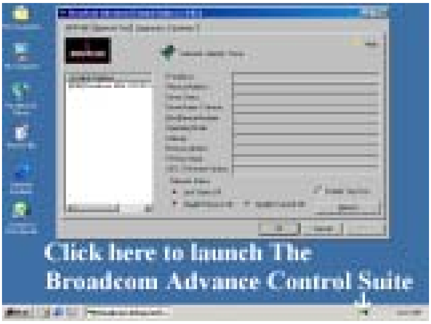
Step 12: The "**Information**" screen will appear. Click the "**OK**" button to go on.



Step 13: When the installation is complete, the installer will ask you to restart your computer. We suggest that you choose "**Yes, I want to restart my computer now.**" then click the "**Finish**" button to restart your computer to finish the driver updates.



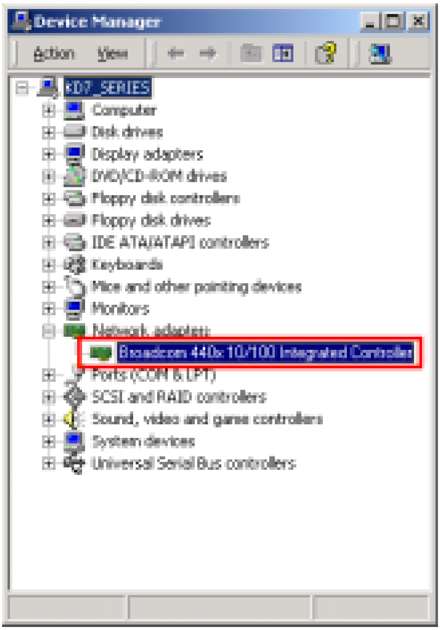
Step 14: When system restarts and enters the operating system, you can then check the "**Device Manager**" to see that the device is properly installed.



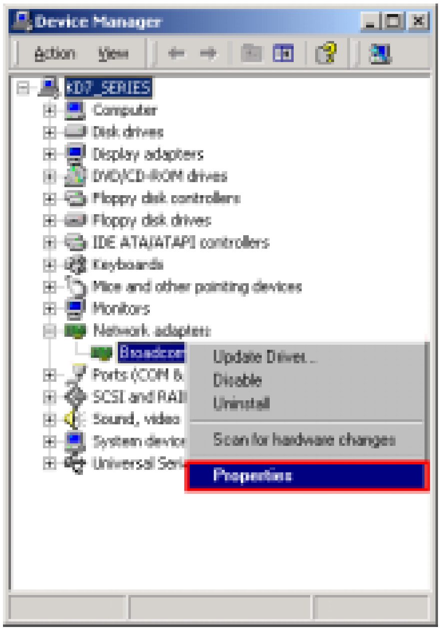
Step 15: You can click the icon  on the tool bar to launch **"Broadcom Advanced Control Suite"** program. For detailed operation about **"Broadcom Advanced Control Suite"** program, please refer to online manual on the CD.

How to enable the WOL(Wake up On LAN) function for Broadcom 440X LAN Chipset

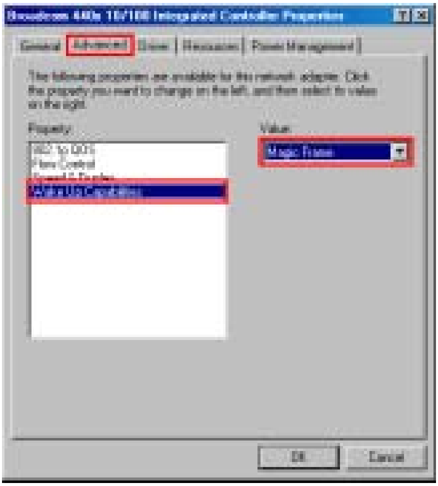
To enable the WOL function for Broadcom 440X 10/100 Mb, please follow the instruction below:



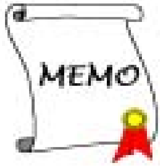
Step 1: Please check the "**Device Manager**", you will see "**Broadcom 440x 10/100 Integrated Controller**" in the "**Network adapters**".



Step 2: Please move cursor to "**Broadcom 440x 10/100 Integrated Controller**" and select it. Then click mouse-right button, and choose "**Properties**".



Step 3: Please move cursor to "**Advanced**" option and click it. Please select "**Wake Up Capabilites**"option and then set the **"Value"** to **"Magic Frame"**. Please click **"OK"** button and restart your computer to finish setting.


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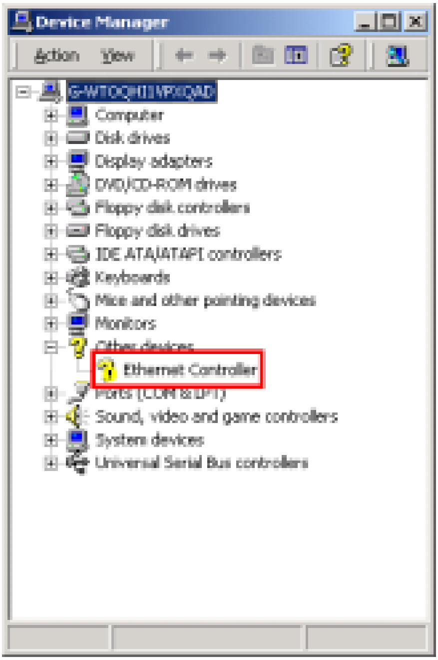
Appendix D. Broadcom 570X Gigabit LAN Driver and Management Application Installation for Windows® 2000

After you've installed VIA 4 in 1 driver, you will need to install the LAN driver and LAN management application. Step by step instructions on how to do this are found in the following section.

Note
Details of the Windows® 2000 operating system will not be mentioned in this manual. If you have any problems with Windows® 2000 installation, operations, or settings, please refer to your Windows® 2000 user's manual or other databases provided by Microsoft® Corporation.

Insert the KT series CD into your CD-ROM drive, and follow the process below to install LAN driver manually.

Driver Installation:



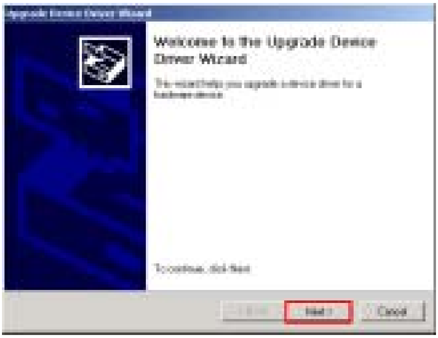
Step 1: Please check the "**Device Manager**", you will see "**Ethernet Controller**" in the "**Other devices**".



Step 2: Please move cursor to "**Ethernet Controller**" and select it. Then click mouse-right button, and choose "**Properties**".



Step 3: The "**Ethernet Controller Properties**" screen show up, click "**Reinstall Driver**" to go on.



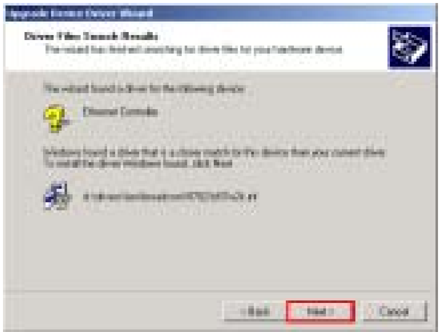
Step 4: The "**Upgrade Device Driver Wizard**" screen show up, click "**Next>**" to go on.



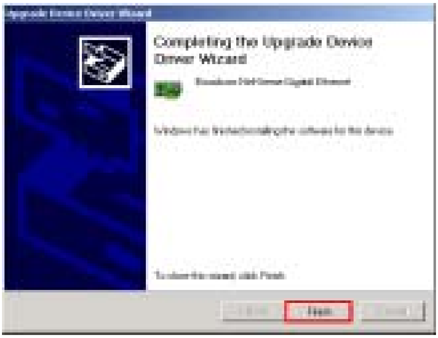
Step 5: Be sure the option "**Search for new suitable driver for my device (recommanded)**" is selected, and click "**Next>**" to go on.



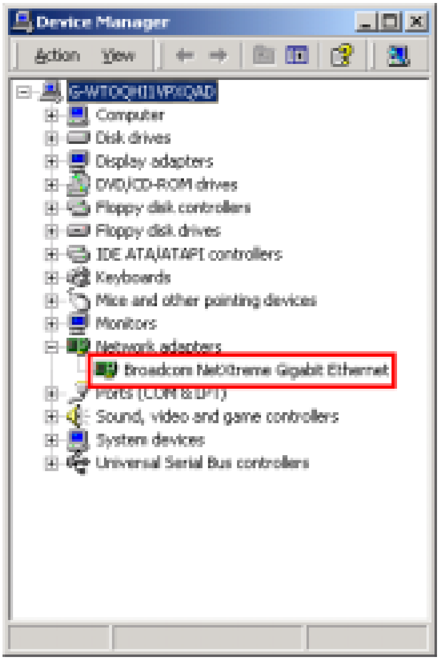
Step 6: Select "**CD-ROM drivers**", and click "**Next>**" to go on.



Step 7: Then "**The wizard found a drive…**" message will be seen in "**Upgrade Device Driver Wizard**" screen, and click "**Next>**" to go on.



Step 8: When the installation is complete, you will see "**Completing the Upgrade Device Driver Wizard**" message shown in the "**Upgrade Device Driver Wizard**" screen. Then click the "**Finish**" button to go on.



Step 9: Now, you can check the "**Device Manager**" to see that the device is properly installed.

Management Application Installation:

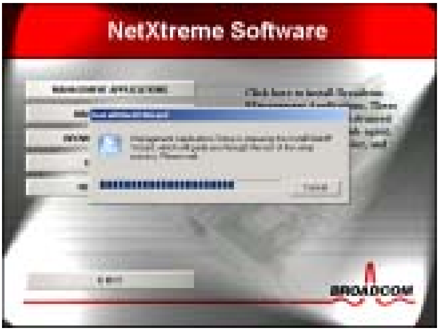
After you've installed LAN driver, you will need to install the management application. Step by step instructions on how to do this are found in the following section.



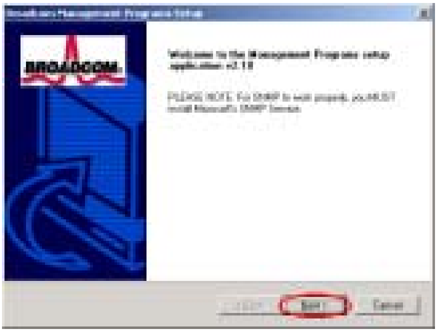
Step 1: Move the cursor to "**Broadcom LAN Driver"** and click on it. You will go to the next screen.



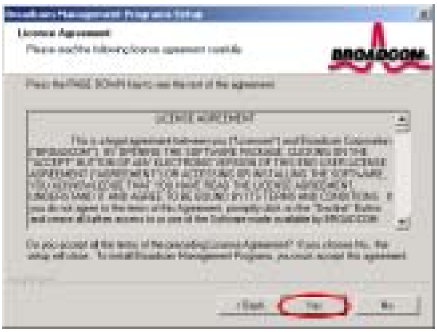
Step 2: Move the cursor to "**MANAGEMENT APPLICATIONS"** and click on it. You will go to the next screen.



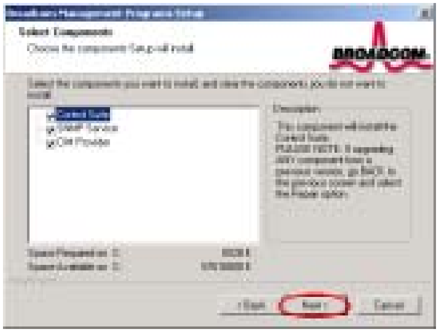
Step 3: The "**InstallShield Wizard**" shows up, and it will go to the next screen for a while.



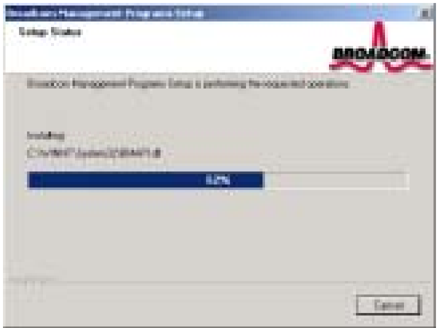
Step 4: You will now see the welcome screen and its dialogue box. Click "**Next>**" to go on.



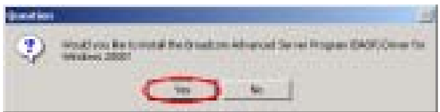
Step 5: The "**Software License Agreement**" screen will appear. Click the "**Yes**" button to go on.



Step 6: Be sure all the options are selected, and click "**Next>**" to go on.



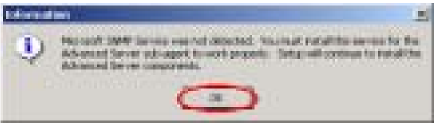
Step 7: The installer will show the install progress percentage.



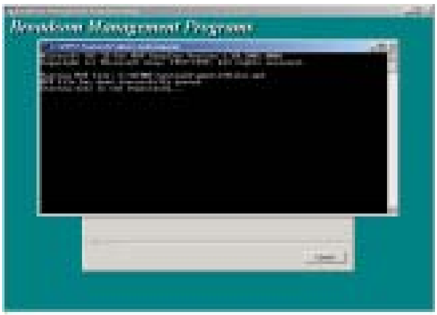
Step 8: The "**Question**" screen will appear. Click the "**YES**" button to go on.



Step 9: The "**Configuring Broadcom Advanced Server Program Driver**" shows up, and it will go to the next screen for a while.



Step 10: The "**Information**" screen will appear. Click the "**OK**" button to go on.



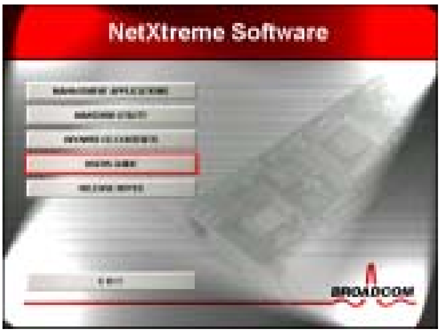
Step 11: The "**mofcomp.exe**" program will be excuted, and it will go to the next screen for a while.



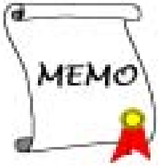
Step 12: The "**Information**" screen will appear. Click the "**OK**" button to go on.



Step 13: You can click the icon  on the tool bar to launch **"Broadcom Advanced Control Suite"** program.



Step 14: For detailed operation about **"Broadcom Advanced Control Suite"**, please refer to online **"USERS GUIDE"** on the CD.


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Appendix E. USB 2.0 Drivers Installation for Windows® 2000

After you've installed VIA 4 in 1 drivers, you will need to install the USB 2.0 drivers. Step by step instructions on how to do this are found in the following section.

Note
● Details of the Windows® 2000 operating system will not be mentioned in this manual. If you have any problems with Windows® 2000 installation, operations, or settings, please refer to your Windows® 2000 user's manual or other databases provided by Microsoft® Corporation. ● The Windows® XP operating system that have SP1 (Service Pack 1) installed can automatically detect and install USB 2.0 driver. When Windows® XP can't install USB 2.0 automatically, you should check if Servie Pack 1 for Windows XP has been already installed, or install USB 2.0 driver directly from the Microsoft Windows Update web site by the **"Windows Update"** program.

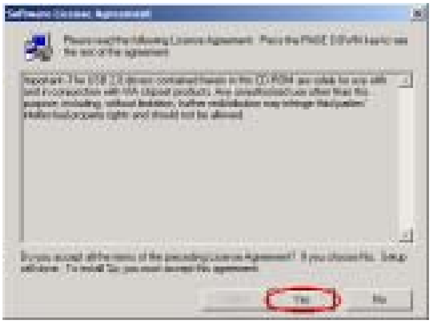
Insert the KT series CD into your CD-ROM drive, and it should execute the program automatically. If not, you can go to the CD location and execute the execution file at the main directory of the CD. After it has been executed you will see the screen below.



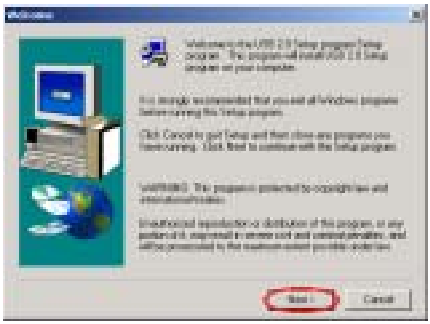
Step 1: Move the cursor to "**VIA USB 2.0 Drive"** and click on it. You will go to the next screen.



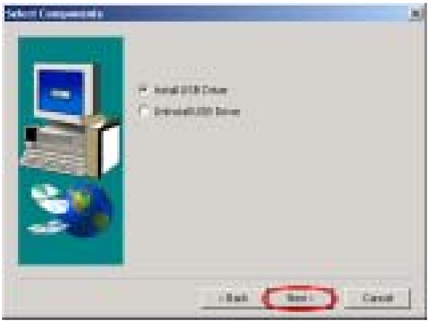
Step 2: The "**InstallShield Wizard**" shows up, and it will go to the next screen for a while.



Step 3: The "**Software License Agreement**" screen will appear. Click the "**Yes**" button to go on.



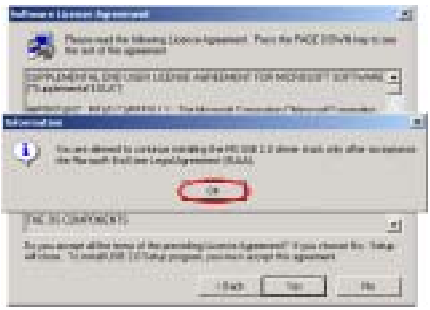
Step 4: You will now see the welcome screen and its dialogue box. Click "**Next>**" to go on.



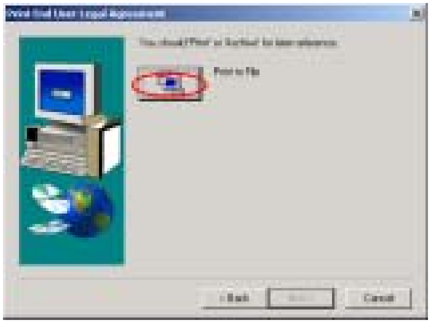
Step 5: Please select "**Install USB Driver**", and click the "**Next>**" button to continue.



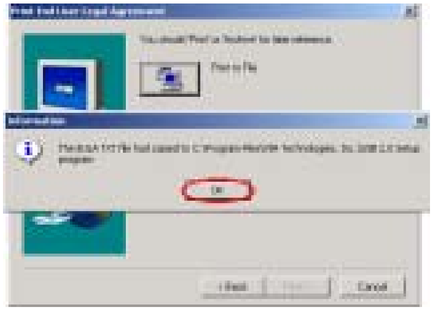
Step 6: The "**Software License Agreement**" screen will appear. Click the "**Yes**" button to go on.



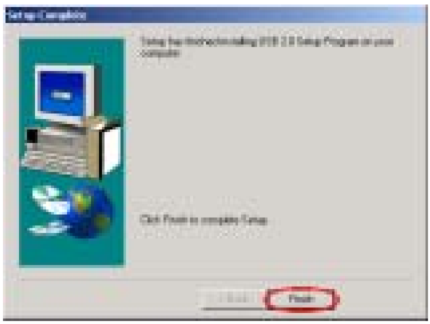
Step 7: The "**Information**" screen will appear. Click the "**OK**" button to go on.



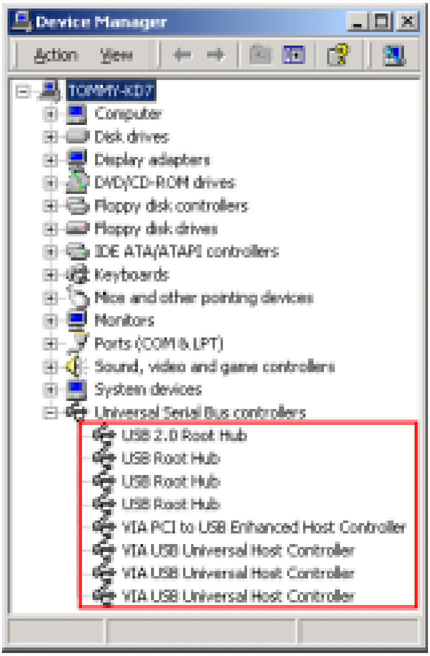
Step 8: The "**Print End User Legal Agreement**" screen will appear. Click the "**Print to File**" button to go on.



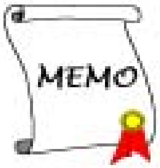
Step 9: The "**Information**" screen will appear. Click the "**OK**" button to go on.



Step 10: Windows has completed installing the driver. Click the "**Finish**" button to complete the installation.



Step 11: You can check the "**Device Manager**" see that the devices are properly installed.


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Appendix F. KD7 Serial ATA Drivers Installation for Windows® 2000

After you've installed VIA Chipset drivers, you will need to install the Serial ATA drivers. Step by step instructions on how to do this are found in the following section.

Note
Details of the Windows® 2000 operating system will not be mentioned in this manual. If you have any problems with Windows® 2000 installation, operations, or settings, please refer to your Windows® 2000 user's manual or other databases provided by Microsoft® Corporation.

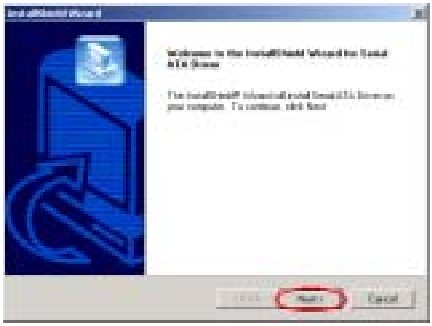
Insert the KT series CD into your CD-ROM drive, and it should execute the program automatically. If not, you can go to the CD location and execute the execution file at the main directory of the CD. After it has been executed you will see the screen below.



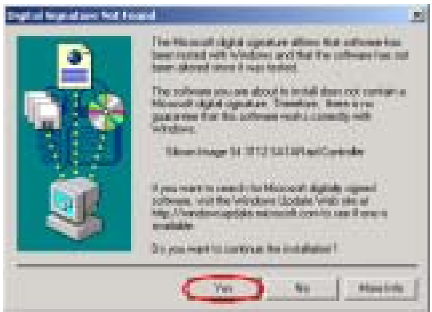
Step 1: Move the cursor to "**Serial ATA RAID Driver**" and click on it. You will go to the next screen.



Step 2: The "**Install Shield Wizard**" shows up, and it will go to the next screen for a while.



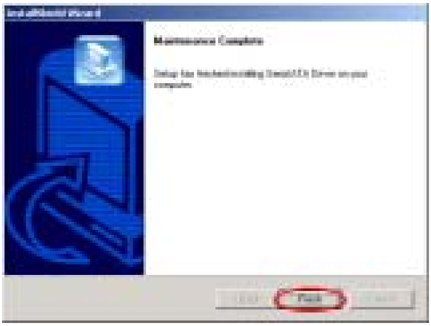
Step 3: You will now see the welcome screen and its dialogue box. Click "**<u>N</u>ext>**" to go on.



Step 4: The "**Digital Signature Not Found**" screen show up, click "**Yes**" to go on.



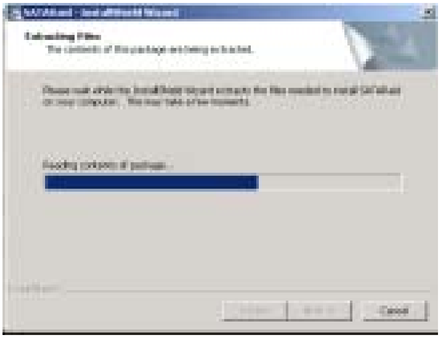
Step 5: The installer will show the install status.



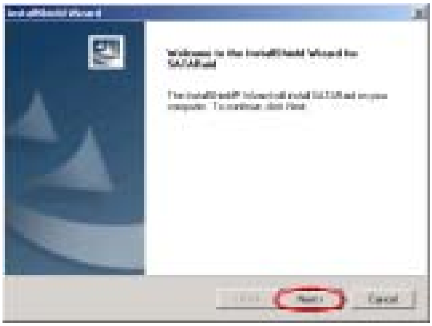
Step 6: The "**Maintenance Complete**" screen will appear. Click the "**Finish**" button to continue to install SATARaid GUI Application.



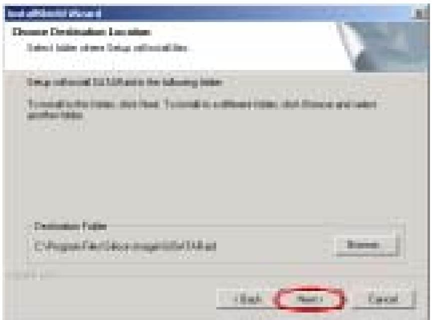
Step 7: The "**Install SATARaid GUI**" screen will appear. Click the "**Yes**" button to go on.



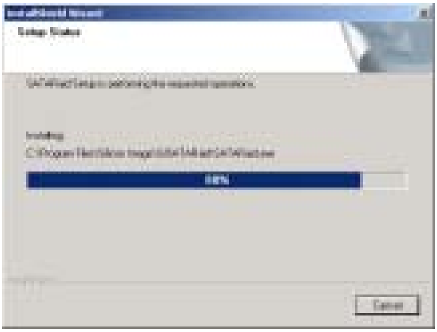
Step 8: The installer will show the install status.



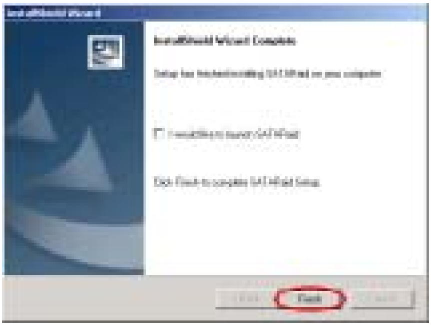
Step 9: You will now see the welcome screen and its dialogue box. Click "**Next>**" to go on.



Step 10: Now you can choose the destination location where you want to install the drivers. We suggest that you use the default folder as the destination location. After checking the folder click "**Next>**" button.



Step 11: The installer will show the install status.



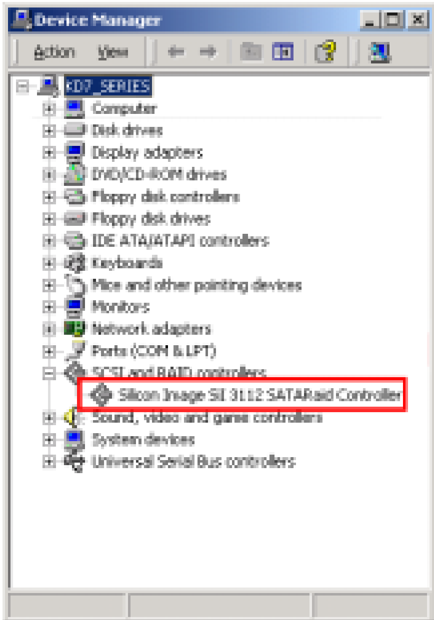
Step 12: The "**InstallShield Wizard Complete**" screen will appear. Click the "**Finish**" button to go on.



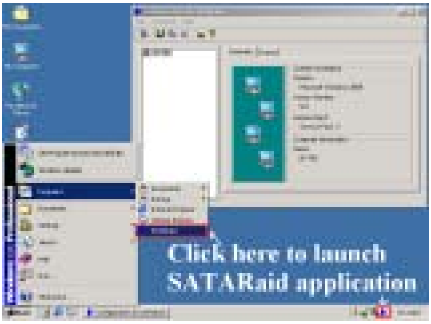
Step 13: The "**Maintenance Complete**" screen will appear. Click the "**Finish**" button to go on.



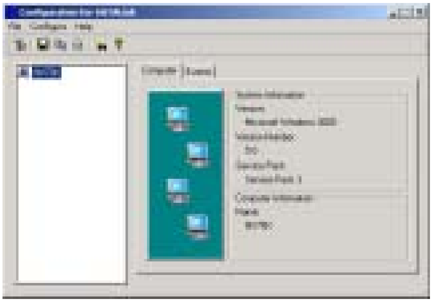
Step 14: When the installation is complete, the installer will ask you to restart your computer. We suggest that you choose "**Yes, I want to restart my computer now.**" then click the "**Finish**" button to restart your computer to finish the driver updates.



Step 15: You can check the "**Device Manager**" see that the devices are properly installed.



Step 16: You can select the program from Start toolbar, and then choose Programs. You will see the item called "**SATARaid**". Click it, and you will be able to launch SATARaid GUI application to monitor the RAID set Status.



The details of software operation, you can refer the software "**Help**" menu.

Appendix G. Installing The Hardware Monitor System

The Hardware Monitor System is a self-diagnostic system for PCs. It will protect PC hardware by monitoring several critical items including power supply voltage, CPU and system fan speeds, and CPU and system temperatures. These items are important for the operation of the system; errors may result in permanent damage to the PC. Once any item is out of its normal range, a warning message will pop up and remind the user to take proper measures.

The following description will tell you how to install the Hardware Monitor System and use it. Insert the KT series CD into your CD-ROM drive. It should execute the program automatically. If not, you can go to the CD location and execute the execution file from the main directory of this CD. After it is executed, you will see the screen below.



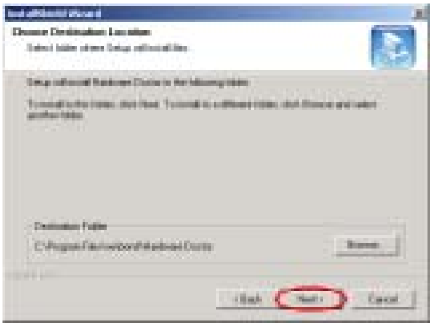
Step 1: Move the cursor to "**Hardware Doctor"** and click on it. Then click on "**Hardware Doctor**", You will go to the next screen.



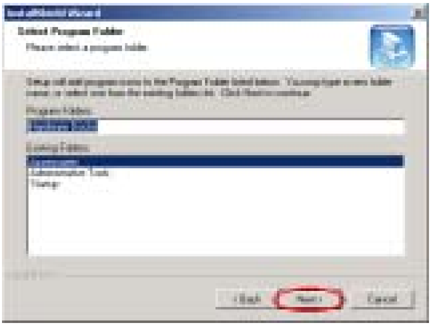
Step 2: You will see the install shell wizard active.



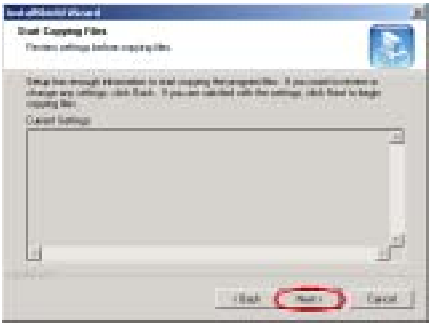
Step 3: The welcome screen and its dialogue box will appear. Click the "**Next>**" button to go on.



Step 4: Now you can choose the destination location where you want to install the drivers. We suggest that you use the default folder as the destination location. After checking the folder click "**Next>**" button.



Step 5: You can choose the name of the program folder. We suggest you use the default program folder name. After checking the program folder name then click "**Next>**" button.
Program will start to install drivers the system needs.



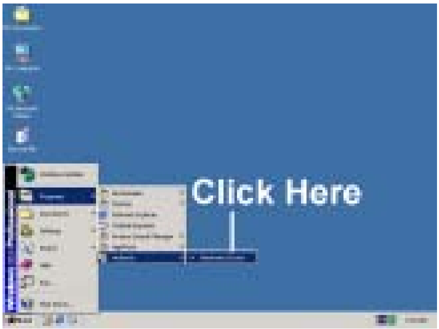
Step 6: The wizard will prepare to start install the program file.



Step 7: The installer will show the install progress percentage.



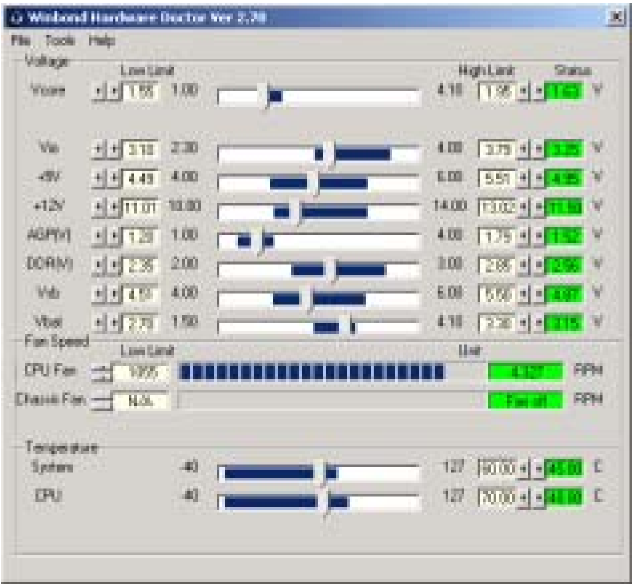
Step 8: When the installation is complete, the installer will ask you to restart your computer. We suggest that you choose "**Yes, I want to restart my computer now.**" then click the "**Finish**" button to restart your computer to finish installation.

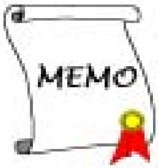


Step 9: You can select the program from Start toolbar, and then choose Programs. You will see the item called "**Winbond**" ➔ "**Hardware Doctor**" 

. Click it, and you will be able to see the screen below.

Step 10: This screen shows the hardware monitor system screen. It shows information about system temperature, voltages and fan speed. Some items can let you set the warning range; you can optimize values by setting them in accordance your system.




MEMO

Appendix H. BIOS Update Guide

We will use the SE6 motherboard as an example. All other models follow the same process. (The motherboard photo we show you below is SX7-533)

1. Know your motherboard's PCB version number. You can find it at the front or back of the motherboard. Each motherboard always has the label (Bar code sticker) at a different place on the PCB to show the PCB version. (As shown in the photo below, just for example)



2. Know the current BIOS ID.

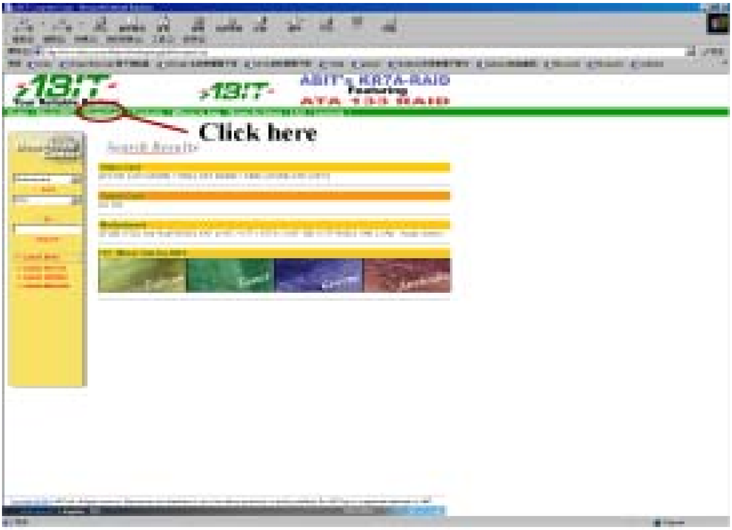


For example, in this case, the current BIOS ID is "**00**". If you already have the latest BIOS, no any

update action is necessary. If your BIOS is not the latest BIOS, go on to the next step.

3. Download the correct BIOS file from our Web site.

You can click the "**Download**" button on the green line, then go to our download center and choose the correct BIOS file and download it.



4. Double click the download file-it will self-extract to awdflash.exe and .bin files.

5. Make a bootable floppy disk and copy the necessary files onto it.



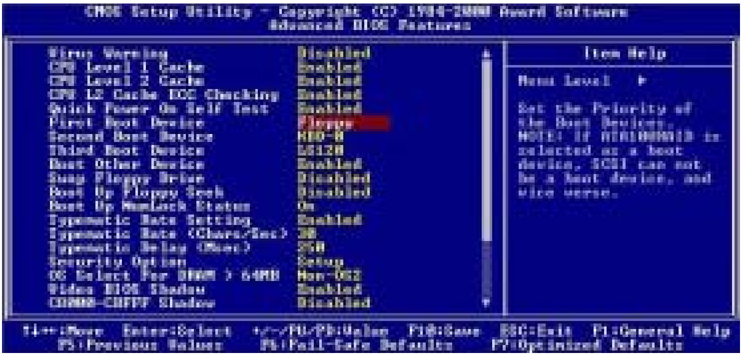
You may make a floppy disk bootable either in Explorer or in the DOS prompt mode.



After formatting and transferring the system to the floppy disk, copy two files into it. One is the BIOS flash utility “**awdflash.exe**” and the other is the decompressed BIOS “**.bin**” file.

6. Boot off floppy disk.







Please set the first boot sequence as “**floppy**” in BIOS and boot off the floppy disk.

7. Flash the BIOS in pure DOS mode.

```
A:\>awdflash se6_sw.bin /cc /cd /cp /py /sn /cks /r_
```

After successfully booting off of the floppy, execute the flash utility according to these instructions.

Note

We strongly recommend you use the above parameters following “**awdflash**” to flash your BIOS. **DO NOT** just type “**awdflash se6_sw.bin**” without the above parameters following the .bin file.

Note

The Award flash utility can’t be completed under a Windows® 95/98 or Windows® NT, Windows® 2000, Windows® XP, Windows® ME environment, you must be in a pure DOS environment.

You should check which BIOS file is to be used with your motherboard, don't flash with the wrong BIOS file. Otherwise, you may cause system malfunctions.

Note

Please do not use the Award flash memory writer version that earlier than Version 7.52C to flash your KD7-B/KD7-S/KD7-G motherboard BIOS. Otherwise, it may cause flash fail or un-anticipate problems.

Note

During the updating, the progress will be measured by white blocks. The last four *blue* blocks of the flash update process represent the “**BIOS boot block**”. The BIOS boot block is used to prevent the BIOS from becoming corrupt during programming. It should not be programmed every time. If this “**BIOS boot block**” remains intact when the BIOS becomes corrupt during programming, then you can boot from a bootable floppy next time you boot your computer. This allows you to flash your BIOS again without the need for technical support from the dealer.

Appendix I. Troubleshooting (Need Assistance?)

Motherboard Troubleshooting:

Q & A:

Q: Do I need to clear the CMOS before I use a new motherboard to assemble my new computer system?

A: Yes, we highly recommend that you clear the CMOS before installing a new motherboard. Please move the CMOS jumper from its default 1-2 position to 2-3 for a few seconds, and then back. When you boot up your system for the first time, follow the instructions in the user's manual to load the optimized defaults.

Q: If my systems hang when I update the BIOS or set the wrong CPU parameters, what should I do?

A: Whenever you update the BIOS or if the system hangs due to wrong CPU parameters setting, always clear CMOS jumper before booting up again.

Q. After tried some over clocking or non-standard settings inside the BIOS, the system failed to boot up and nothing was displayed on the screen. Is the mainboard dead? Do I need to return it to where I bought from or go through an RMA process?

A. It should not cause a hardware or permanent damage to a mainboard when some BIOS settings were changed from default to over clocking or non-standard status. We suggest the following three troubleshooting methods to discharge CMOS data and recover the hardware default status. It will make the mainboard working again and please don't bother returning the mainboard to where you bought it or go through an RMA process.

1. Switch off the power supply unit and then switch it on again after one minute. If there isn't a switch on it, pull off the power cord for one minute and then pull it back. Press the "Insert" key on the keyboard and don't loosen it, meanwhile, press the power-on button to boot up system. If it works, loosen the "Insert" key and hit "Del" key to enter the BIOS setup page to do correct settings. If still can't help, repeat step 1 three times or try step 2.

2. Switch off the power supply unit or pull off the power cord, and then open the chassis. There is a CCMOS jumper near the battery. Change the jumper position from default 1-2 to 2-3 for one minute to discharge the CMOS data, and then put it back to default 1-2. Close the chassis and switch on the power supply unit or pull in the power cord. Press the power-on button to boot up system. If it works, hit "Del" key to enter the BIOS setup page to do correct settings. If still can't help, try step 3.

3. The same procedure as step 2, meanwhile, pull up ATX power connectors from mainboard and take away mainboard battery during CMOS discharging.

Q: How can I get a quick response to my request for technical support?

A: Be sure to follow the guidelines as stated in the "Technical Support Form" section of this manual.

If you have a problem during operation, in order to help our technical support personnel quickly determine the problem with your motherboard and give you the answers you need, before filling in the technical support form, eliminate any peripheral that is not related to the problem, and indicate it on the form. Fax this form to your dealer or to the company where you bought the hardware in order to benefit from our technical support. (You can refer to the examples given below)

🗎

Example 1: With a system including: motherboard (with processor, DDR DRAM, etc.) HDD, CD-ROM, FDD, graphic adapter, MPEG-2 card, SCSI adapter, audio card, etc. After the system is assembled, if you cannot boot up, check the key components of the system using the procedure described below. First remove all interface cards except the VGA card and try to reboot.

☞ **If you still cannot boot up:**

Try installing another brand/model VGA card and see if the system will start. If it still does not start, note the VGA card model, motherboard model, Bios identification number, CPU on the technical support form (refer to main instructions), and describe the problem in the problem description space provided.

☞ **If you can boot up:**

Insert the interface cards you have removed back into the system, one by one and try to start the system each time you insert a card, until the system will not start. Keep the VGA card and the interface card that caused the problem inserted on the motherboard, remove any other cards or peripheral, and start again. If you still cannot start, note the information related to both cards in the add-on Card space provided, and don't forget to indicate the motherboard model, version, BIOS identification number, CPU (refer to main instructions), and give a description of the problem.

🗎

Example 2: With a system including: motherboard (with processor, DDR DRAM, etc.) HDD, CD-ROM, FDD, graphic adapter, MPEG-2 card, SCSI adapter, audio card, etc. After assembly and after having installed the audio card driver, when you restart the system, when it runs the audio card driver, it resets automatically. This problem may be due to the audio card driver. During the starting DOS… procedure, press SHIFT (BY-PASS) key, to skip CONFIG.SYS and AUTOEXEC.BAT; edit CONFIG.SYS with a text editor, and in function the line that loads the audio card driver, add a remark REM, in order to disable the audio card driver. See the example below.

CONFIG.SYS:
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE HIGHSCAN
DOS=HIGH, UMB
FILES=40
BUFFERS=36
REM DEVICEHIGH=C:\PLUGPLAY\DWCFGMG.SYS
LASTDRIVE=Z

Restart the system. If the system starts and does not reset, you can be sure that the problem is due to the Sound Card Driver. Write down the Sound Card model, motherboard model, BIOS identification number on the technical support file (refer to main instructions), and describe the problem in the space provided.

☺☺☺ We will show you how to fill the "**Technical Support Form**".

Instructions

To fill in this "**Technical Support Form**", refer to the step-by-step instructions given below:

1*. Model Name: Note the model number given in your user's manual.

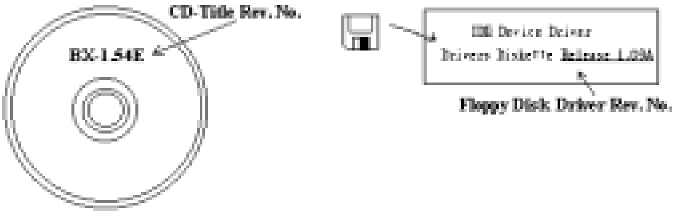
For example: KD7-B/KD7-S/KD7-G, KD7/KD7-RAID, KD7-E,AT7-MAX2, NF7 etc.

2*. Motherboard PCB Version: Note the motherboard PCB version labeled on the motherboard slot or back side as "**Rev:*.****".

For example: REV: 1.01

3*. BIOS ID & Part Number: See ***Appendix H*** for detialed information.

4. DriverVersion: Note the driver version number indicated on the device driver disk or CD-ROM (if have) as "**Release *.****" (or Rev. *.**, Version *.**). For example:



5*. OS/Applications: Indicate the operating system and the applications you are running on the system.

For example: Windows® 98 SE, Windows® 2000, Windows® XP, etc.

6*. Processor Type: Indicate the brand and the speed (MHz) of your CPU.

Example: (A) In the "**Brand**" space, write "**AMD**", in the "**Specifications**" space, write " **Athlon™ 1 GHz**" 。

7. Hard Disk Drive: Indicate the brand and specifications of your HDD(s), specify if the HDD is using ☐IDE1 or ☐IDE2. If you know the disk capacity, indicate it and check ("✓") "☐"; in case you give no indication, we will consider that your HDD is "☑**IDE1**" Master.

For example: In the "**Hard Disk Drive**" space, check the box, in the "**Brand**" space, write "**SEAGATE**", in the "**Specifications**" space, write "**Darracuda ATA2 ST330631A (30 GB)**".

8. CD-ROM Drive: Indicate the brand and specifications of your CD-ROM drive. Specify if it uses ☐ IDE1 or ☐IDE2， and check ("✓") "☐"; in case you give no indication, we will consider that your CD-ROM is "☑**IDE2**" Master.

For example: In the "**CD-ROM Drive**" space, check the box, in the "**Brand**" space, write "**Pioneer**", in the "**Specifications**" space, write "**DVD-16**".

9. System Memory (DDR SDRAM): Indicate the brand and specifications (DDR DIMM) of your system memory. Examples: Density, Description, Module Components, Module Part Number, CAS Latency, Speed (MHz). For example:

In the "**Brand**" space, write "**Micron**", in the "**Specifications**" space, write:

Density: 128 MB, **Description:** SS 16 Megx72 2.5V ECC Gold, **Module Components:** (9) 16 Megx 8, **Module Part Number:** MT9VDDT1672AG, **CAS Latency:** 2, **Speed (MHz):** 200 MHz.

Please give us the detailed information of your DDR DIMM module, as it will help us to simulate the problems you met.

10. **Add-On Card:** Indicate which add-on cards you are *absolutely sure* are related to the problem.

    If you can't identify the problem's origin, indicate all the add-on cards inserted into your system. Remember to identify which card insert on which slot.

    For example: Creative SB Value sound card insert on PCI slot 3.

11. **Problem Description:** Please tell us problem you met. The more detailed, the better as our engineers can help to find the solution more quickly. If the problem is random occurance, it may be hard to simulate the problem and may take more time to find a solution.

Note
Items between the "*" are absolutely necessary.

Technical Support Form

Company Name: **Phone Number:**

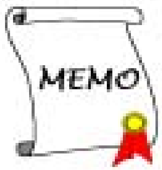
Contact Person: **Fax Number:**

E-mail Address:

Model Name	*	**BIOS ID & Part Number**	*
Motherboard PCB Version		**Driver Version**	
OS/Applications	*		

Hardware Name		**Brand**	**Specifications**
Processor Type		*	
Hard Disk Drive	☐IDE1 ☐IDE2		
CD-ROM Drive	☐IDE1 ☐IDE2		
System Memory (DDR DRAM)			
Add-On Card			

Problem Description:


MEMO

Appendix J. How to Get Technical Support

(From our website) **http://www.abit.com.tw**
(In North America) **http://www.abit-usa.com**
(In Europe) **http://www.abit.nl**

Thank you for choosing ABIT products. ABIT sells all our products through distributors, resellers and system integrators, we have no direct sales to end-users. Before sending email for tech support please check with your resellers or integrators if you need any services, they are the ones who sold you your system and they should know best as to what can be done, how they serve you is a good reference for future purchases.

We appreciate every customer and would like to provide the best service to you. Providing fast service to our customers is our top priority. However we receive many phone calls and a huge amount of email from all over the world. At the present time it is impossible for us to respond to every single inquiry. Therefore it is quite possible that if you send an email to us that you may not receive a response.

We have done many compatibility tests and reliability tests to make sure our products have the best quality and compatibility. In case you need service or technical support, please understand the constraint we have and **always check with the reseller who sold the product to you first.**

To expedite service, we recommend that you follow the procedures outlined below before contacting us. With your help, we can meet our commitment to provide the best service to the **greatest number of ABIT customers:**

1. **Check the Manual.** It sounds simple, but we have taken a lot of care in making a well-written and thorough manual. It is full of information that doesn't only pertain to motherboards. The CD-ROM included with your board will have the manual as well as drivers. If you don't have either one, go to the Program Download Area of our website or FTP server.

2. **Download latest BIOS, software or drivers.** Please go to our Program Download area on our website to check to see if you have the latest BIOS. They are developed over periods of time to fix bugs or incompatibilities. **Also please make sure you have the latest drivers from your peripheral cards makers!**

3. **Check the ABIT Technical Terms Guide and FAQ on our website.** We are trying to expand and make the FAQs more helpful and information rich. Let us know if you have any suggestions. For hot topics check out our HOT FAQ!

4. **Internet Newsgroups.** They are a great source of information and many people there can offer help. ABIT's Internet News group, **alt.comp.periphs.mainboard.abit**, is an ideal forum for the public to exchange information and discuss experiences they have had with ABIT products. Many times you will see that your question has already been asked before. This is a public Internet news group and it is reserved for free discussions, Here is a list of some of the more popular ones:

   alt.comp.periphs.mainboard.abit
   comp.sys.ibm.pc.hardware.chips
   alt.comp.hardware.overclocking
   alt.comp.hardware.homebuilt
   alt.comp.hardware.pc-homebuilt

   Ask your reseller. Your ABIT authorized distributor should be able to provide the fastest solution to your technical problem. We sell our products through distributors who sell to resellers and stores. Your reseller should be very familiar with your system configuration and should be able to solve your problem much more efficiently than we could. After all, your reseller regards you as an important customer who may purchase more products and who can urge your friends to buy from him or her as

well. They integrated and sold the system to you. They should know best what your system configuration is and your problem. They should have reasonable return or refund policies. How they serve you is also a good reference for your next purchase.

5. **Contacting ABIT.** If you feel that you need to contact ABIT directly you can send email to the ABIT technical support department. First, please contact the support team for the branch office closest to you. They will be more familiar with local conditions and problems and will have better insight as to which resellers offer what products and services. Due to the huge number of emails coming in every day and other reasons, such as the time required for problem reproduction, we will not be able to reply to every email. Please understand that we are selling through distribution channels and don't have the resources to serve every end-user. However, we will try to do our best to help every customer. Please also remember that for many of our technical support team English is a second language, you will have a better chance of getting a helpful answer if your question can be understood in the first place. Be sure to use very, simple, concise language that clearly states the problem, avoid rambling or flowery language and always list your system components. Here is the contact information for our branch offices:

In North America and South America:
ABIT Computer (USA) Corporation

45531 Northport Loop West,
Fremont CA, 94538, U.S.A.
sales@abit-usa.com
technical@abit-usa.com
Tel: 1-510-623-0500
Fax: 1-510-623-1092

In the UK and Ireland:
ABIT Computer (U.K.) Corporation Ltd.

Unit 3, 24-26 Boulton Road,
Stevenage, Herts SG1 4QX, UK
sales@abitcomputer.co.uk
technical@abitcomputer.co.uk
Tel: 44-1438-228888
Fax: 44-1438-226333

In Germany and Benelux (Belgium, Netherlands, Luxembourg), Denmark, Norway, Sweden, Finland and Switzerland:
AMOR Computer B.V. (ABIT's European Office)

Van Coehoornstraat 7,
5916 PH Venlo, The Netherlands
sales@abit.nl
technical@abit.nl
Tel: 31-77-3204428
Fax: 31-77-3204420

In Austria, Czech, Romania, Bulgaria, Yugoslavia, Slovakia, Slovenia, Croatia, Bosnia and Serbia:

Asguard Computer Ges.m.b.H
Schmalbachstrasse 5
A-2201 Gerasdorf/wien
Austria
Tel: 43-1-7346709
Fax: 43-1-7346713
asguard@asguard.at

In Japan:

ABIT Computer (Japan) Co. Ltd.
Fax: 81-3-5396-5110
Web Site: http://www.abit4u.jp
In Shanghai:
ABIT Computer (Shanghai) Co. Ltd
Tel: 86-21-6235-1829
Fax: 86-21-6235-1832
Web Site: http://www.abit.com.cn

In Russia:

ABIT Computer (Russia) Corporation Ltd
Fax: 7 (095) 937 8237
ricky@abit.com.tw
Web site: http://www.abit.ru

In France:

ABIT Computer France SARL
4, Place La Defense
92974 Paris La Defense cedex
Fax: 33-1-5858-0047
Web site: www.abit.com.tw

All other territories not covered above please contact:

Taiwan Head Office

When contacting our headquarters please note we are located in Taiwan and we are 8+ GMT time. In addition, we have holidays that may be different from those in your country.

No. 323, Yang Guang St., Neihu,
Taipei, 114, Taiwan
sales@abit.com.tw
market@abit.com.tw
technical@abit.com.tw
Web Site: http://www.abit.com.tw
Tel: 886-2-87518888
Fax: 886-2-87513381

RMA Service. If your system has been working but it just stopped, but you have not installed any new software or hardware recently, it is likely that you have a defective component. Please contact the reseller from whom you bought the product. You should be able to get RMA service there.

6. **Reporting Compatibility Problems to ABIT**. Because of tremendous number of email messages we receive every day, we are forced to give greater weight to certain types of messages than to others. For this reason, any compatibility problem that is reported to us, giving detailed system configuration information and error symptoms, will receive the highest priority. For the other questions, we regret that we may not be able to reply directly. But your questions may be posted to the internet news group in order that a larger number of users can have the benefit of the information. Please check the news group from time to time.

7. Listed below are some chipset vendors' WEB site addresses for your reference:

   ALi's WEB site: http://www.ali.com.tw/
   AMD's WEB site: http://www.amd.com/
   Highpoint Technology Inc.'s WEB site: http://www.highpoint-tech.com/
   Intel's WEB site: http://www.intel.com/
   SiS' WEB site: http://www.sis.com.tw/
   VIA's WEB site: http://www.via.com.tw/

Thank you, ABIT Computer Corporation

http://www.abit.com.tw